Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1978

By James S. Hutchison and Jay F. Weigel

U.S. GEOLOGICAL SURVEY

U.S. DEPARTMENT OF THE INTERIOR
MARCH 3, 1849

Prepared in cooperation with the City of Houston

October 1980

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

H. William Menard, Director

Reproduced by the Texas Department of Water Resources as part of the continuing program of cooperation in water-resources investigations between the Department and the U.S. Geological Survey

CONTENTS

Page

Metric conversions-- 8
Introduction-- 9
Location and description of the area------------------------------------- 10
Data-collection methods-- 12
    Precipitation data-- 12
    Runoff data--- 19
    Water-quality data-- 19
Selected references-- 22
Compilation of data-- 23
San Jacinto River basin:
Buffalo Bayou:
Barker Reservoir near Addicks, Tex.-------------------------------------- 24
South Mayde Creek:
Addicks Reservoir near Addicks, Tex.------------------------------------- 27
Buffalo Bayou near Addicks, Tex.-- 30
Buffalo Bayou at West Belt Drive, Houston, Tex.------------------------ 33
Buffalo Bayou at Piney Point, Tex.-- 34
Buffalo Bayou at Houston, Tex.-- 37
Whiteoak Bayou:
Whiteoak Bayou drainage basin-- 40
Cole Creek drainage basin-- 42
Cole Creek at Deihl Road, Houston, Tex.---------------------------------- 44
Brickhouse Gully drainage basin--- 45
Brickhouse Gully at Clarblak Street, Houston, Tex.--------------------- 48
    Storm of June 6-7, 1978-- 49
    Storm of July 28, 1978--- 52
Brickhouse Gully at Costa Rica Street, Houston, Tex.------------------ 53
    Storm of June 6-7, 1978-- 56
    Storm of July 28, 1978--- 58
Whiteoak Bayou at Houston, Tex.-- 60
    Storm of June 6-7, 1978-- 64
Little Whiteoak Bayou at Houston, Tex.----------------------------------- 67
Brays Bayou:
Brays Bayou drainage basin-- 69
Brays Bayou at Alief, Tex.--- 72
    Storm of June 6-7, 1978-- 73
Keegans Bayou drainage basin--- 75
Keegans Bayou at Keegan Road near Houston, Tex.----------------------- 78
    Storm of June 7, 1978-- 79
Keegans Bayou at Roark Road near Houston, Tex.------------------------- 80
    Storm of June 7, 1978-- 84
Brays Bayou at Gessner Drive, Houston, Tex.----------------------------- 86
    Storm of June 6-7, 1978-- 87

CONTENTS

Page

Compilation of data--Continued
San Jacinto River basin:--Continued
Brays Bayou:--Continued

Bintliff Ditch drainage basin-- 90
Bintliff Ditch at Bissonnet Street, Houston, Tex.--------------------- 93
    Storm of June 7, 1978--- 94
Brays Bayou at Houston, Tex.-- 95
Brays Bayou at Scott Street, Houston, Tex.---------------------------- 98

Sims Bayou:

Sims Bayou drainage basin--100
Sims Bayou at Hiram Clarke Street, Houston, Tex.-----------------------102
Sims Bayou at Martin Luther King Boulevard, Houston, Tex.--------------106
Sims Bayou at Houston, Tex.--107
Berry Bayou drainage basin---110
Berry Bayou at Gilpin Street, Houston, Tex.----------------------------113
    Storm of June 27, 1978---114
Berry Bayou at Forest Oaks Street, Houston, Tex.-----------------------115

Vince Bayou:

Vince Bayou drainage basin---117
Vince Bayou at Pasadena, Tex.--118

Hunting Bayou:

Hunting Bayou drainage basin---121
Hunting Bayou at Falls Street, Houston, Tex.---------------------------124
    Storm of June 6-7, 1978--127
Hunting Bayou at Interstate Highway 610, Houston, Tex.-----------------129
    Storm of June 6-7, 1978--133

Greens Bayou:

Greens Bayou drainage basin--136
Greens Bayou at Cutten Road near Houston, Tex.-------------------------139
Greens Bayou at U.S. Highway 75 near Houston, Tex.---------------------140
    Storm of June 6-7, 1978--141
Greens Bayou near Houston, Tex.--144
    Storm of June 6-7, 1978--148
Halls Bayou drainage basin---151
Halls Bayou at Deertrail Street near Houston, Tex.---------------------154
    Storm of June 6-7, 1978--155
Halls Bayou at Houston, Tex.---158
    Storm of June 6-7, 1978--162
Greens Bayou at Ley Road, Houston, Tex.--------------------------------165

Clear Creek basin:

Clear Creek near Pearland, Tex.--167

CONTENTS--Continued

Page

Compilation of data--Continued

Daily and monthly rainfall summary for gages north of Buffalo Bayou----173
Daily and monthly rainfall summary for gages south of Buffalo Bayou----178
Monthly rainfall-data summary in the Houston metropolitan area, National Weather Service Stations, 1978 water year----184

ILLUSTRATIONS

Page

Figure 1. Map showing locations of data-collection sites in the Houston urban study area---------------------------- 13
2. Graph showing rainfall at four drainage basins in the Houston metropolitan area, 1978 water year--- 14
3. Graph showing runoff from three drainage basins in the Houston metropolitan area, 1978 water year, and average runoff for the period 1953-70 ---------- 20
4-14. Map showing locations of data-collection sites in and near the:
4. Whiteoak Bayou drainage basin------------------------------- 41
5. Cole Creek drainage basin------------------------------------ 43
6. Brickhouse Gully drainage basin------------------------------ 46
7. Brays Bayou drainage basin----------------------------------- 70
8. Keegans Bayou drainage basin--------------------------------- 76
9. Bintliff Ditch drainage basin-------------------------------- 91
10. Sims Bayou drainage basin------------------------------------101
11. Berry Bayou and Vince Bayou drainage basins------------------111
12. Hunting Bayou drainage basin---------------------------------122
13. Greens Bayou drainage basin----------------------------------137
14. Halls Bayou drainage basin-----------------------------------152

TABLES

Page

Table 1. Percent increases in development in various drainage areas in the Houston metropolitan area from 1969 to 1976-- 11
2. Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area-- 15
3-11. Storm rainfall-runoff data, 1978 water year,:
3. Brickhouse Gully-- 47
4. Whiteoak Bayou--- 59
5. Brays Bayou-- 71
6. Keegans Bayou-- 77
7. Bintliff Ditch--- 92
8. Berry Bayou---112
9. Hunting Bayou---123
10. Greens Bayou--138
11. Halls Bayou---153
12. Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations------------171

METRIC CONVERSIONS

For those readers interested in using the metric system, the inch-pound units of measurements used in this report may be converted to metric units by using the following conversion factors:

From			To obtain	
Unit	Abbreviation	Multiply by	Unit	Abbreviation
inch	in	25.4	millimeter	mm
foot	ft	0.3048	meter	m
mile	mi	1.609	kilometer	km
square mile	mi^2	2.590	square kilometer	km^2
cubic foot per second	ft^3/s	0.02832	cubic meter per second	m^3/s
foot per mile	ft/mi	0.189	meter per kilometer	m/km
acre-foot	--	1233	cubic meter	m^3
		0.001233	cubic hectometer	hm^3

HYDROLOGIC DATA FOR URBAN STUDIES IN THE HOUSTON, TEXAS, METROPOLITAN AREA

1978

By

James S. Hutchison and Jay F. Weigel
U.S. Geological Survey

INTRODUCTION

Hydrologic investigations of urban watersheds in Texas were begun by the U.S. Geological Survey in 1954. Studies are now in progress in Austin, Dallas, Dallas County, Fort Worth, Houston, and San Antonio.

The U.S. Geological Survey, in cooperation with the city of Houston, began studies in the Houston metropolitan area in 1964. The program was expanded in 1968 to include collection of water-quality data. The objectives of the Houston urban-hydrology study are as follows:

1. To determine, on the basis of historical data and hydrologic analyses, the magnitude and frequency of flood peaks and flood volumes.

2. To determine the effect of urban development on flood peaks and volumes.

3. To ascertain the variation in water quality for different flow conditions and different seasons.

This report, the fifteenth in a series of reports to be published annually, is primarily applicable to objective 2. The report presents hydrologic data collected in the Houston urban area for the 1978 water year (October 1, 1977 to September 30, 1978).

A report by Johnson and Sayre (1978) utilized records collected from 1965 to 1969 to make a study of the effects of urbanization on floods in the Houston area. The report also summarizes various basin parameters. A report by Waddell, Massey, and Jennings (1979) presents data on computed runoff from the Houston area and computed concentrations and loads of selected water-quality constituents combined in the inflow to Galveston Bay. The study utilized a variation of the "STORM" model developed by the Hydrologic Engineering Center of the U.S. Army Corps of Engineers. A report prepared by Liscum and Massey (1980) presents a technique for estimating the magnitude and frequency of floods in the Houston area from drainage areas, bank-full conveyance, and percentage of urban development.

To facilitate the publication and distribution of this report at the earliest feasible time, some material has been included that does not conform to the formal publications standards of the U.S. Geological Survey.

LOCATION AND DESCRIPTION OF THE AREA

The Houston study area, which is located about 45 miles from the Gulf of Mexico, is on an almost level plain. The land surface in the area increases in altitude from 35 feet above the National Geodetic Vertical Datum of 1929 (NGVD) in the southeast to 135 feet in the northwest.

Records show that the entire Houston urban study area is being developed rapidly. Percent increases in development in various drainage-basin areas in the Houston metropolitan area from 1969 to 1976 are given in table 1.

Soils in the area are predominately clay, clay loams, and fine sandy loams of low permeability.

The major stream draining the area is Buffalo Bayou, a tributary of the San Jacinto River. Buffalo Bayou is regulated by the Barker and Addicks flood-detention reservoirs near the western limits of the area. From these reservoirs, Buffalo Bayou meanders east and is fed by five major tributaries: Whiteoak, Brays, Sims, Hunting, and Greens Bayous. The drainage area of Buffalo Bayou, excluding the area above the flood-detention reservoirs, is about 810 square miles.

The climate of the Houston area is characterized by short mild winters, long hot summers, high relative humidity, and prevailing southeasterly winds. The mean annual temperature (1941-70) is 68.9°F (20.5°C); the lowest temperature recorded was 5°F (-15°C) in 1930; and the maximum recorded was 108°F (42°C) in 1909.

The 30-year average (1941-70) rainfall for Houston is 48.19 inches, which is distributed uniformly throughout the year. The maximum annual rainfall was 72.86 inches in 1900; and the minimum was 17.66 inches in 1917.

Table 1.--Percent increases in development in various drainage areas in the Houston metropolitan area from 1969 to 1976

Station no.	Station name	1969 a/	1976 b/	Percent increase
08074150	Cole Creek at Diehl Road	34.3	54.0	19.7
08074200	Brickhouse Gully at Clarblak Street	34.6	54.7	20.1
08074250	Brickhouse Gully at Costa Rica Street	61.0	77.5	16.5
08074500	Whiteoak Bayou at Houston	45.2	57.7	12.5
08074780	Keegans Bayou at Keegan Road	21.0	44.9	23.9
08074800	Keegans Bayou at Roark Road	26.3	55.7	29.4
08075000	Brays Bayou at Houston	44.6	64.4	19.8
08075400	Sims Bayou at Hiram Clarke Street	40.4	69.3	28.9
08075500	Sims Bayou at Houston	50.2	73.7	23.5
08075550	Berry Bayou at Gilpin Street	58.0	71.8	13.8
08075650	Berry Bayou at Forest Oaks Street	72.9	85.3	12.4
08075760	Hunting Bayou at Falls Street	95.9	98.9	3.0
08075770	Hunting Bayou at Interstate Highway 610	83.3	95.0	11.7
08075780	Greens Bayou at Cutten Road	24.4	47.2	22.8
08076000	Greens Bayou near Houston	26.3	43.9	17.6
08076200	Halls Bayou at Deertrail Street	30.4	52.8	22.4
08076500	Halls Bayou at Houston	60.3	74.1	13.8
08077100	Clark Creek Tributary at Hall Road	82.0	93.2	11.2

a/ Johnson and Sayre, 1973.

b/ Liscum and Massey, 1980.

DATA-COLLECTION METHODS

The drainage basins and locations of hydrologic-instrument installations and water-quality sampling sites in the Houston urban study area are shown on figure 1. The locations of hydrologic instruments and data-collection sites in the individual basins are shown on figures 4-14.

Precipitation Data

Precipitation data are based on 35 recording rain gages in the Houston metropolitan area. The gages are distributed throughout the drainage basins to measure total precipitation and to define rainfall intensities.

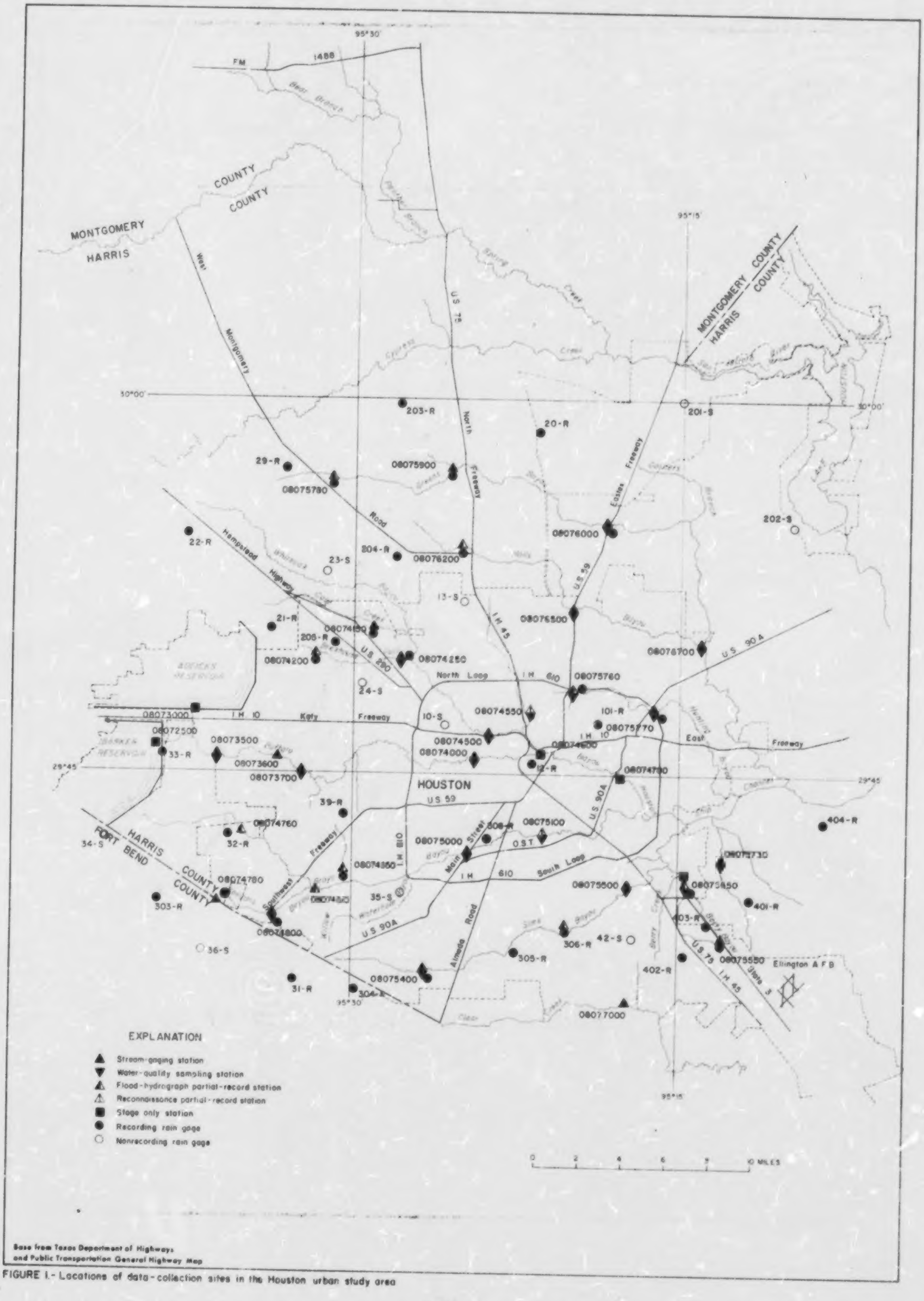
Additional rainfall data are available from rain-gage networks operated by the National Weather Service and are given in the section "Compilation of Data". Locations of recording and nonrecording rain gages at sites other than stream-gaging stations are given in table 12.

Precipitation at individual gages and weighted precipitation in each study basin is given in the section "Compilation of data." Daily and monthly rainfall are also given in the section "Compilation of data."

Weighted-mean precipitation factors are given in table 2. Weighted-mean precipitation for a study area is determined by the Thiessen method as described by Linsley, Kohler, and Paulhus (1949). For example, the weighted-mean precipitation for the drainage basin upstream from the Cole Creek at the Deihl Road gaging station could be computed as follows: Multiply the recorded precipitation at the rain gage at station 08074150 by 0.15; to that value add the recorded precipitation at the rain gage at station 205R multiplied by 0.20; to that value add the recorded precipitation at the rain gage at station 23S multiplied by 0.15; and to that value add the recorded precipitation at the rain gage at station 21R multiplied by 0.50.

Rainfall for the current year was unevenly distributed over the area. Individual station totals ranged from 24.8 inches at the rain gage at Furman Street (station 305R to 48.0 inches at the rain gage at station 08075770, Hunting Bayou at Interstate Highway 610. Figure 2 shows the comparison of accumulated monthly rainfall for the 1978 water year over four widely separated drainage basins with the 30-year average (1941-70) of 48.19 inches for Houston.

Only three storms occurring during the 1978 water year produced rainfall totals over 2.5 inches. The storms of May 29-30 and June 6-7 were confined to the area north of Buffalo Bayou. The storm of July 28 was confined to the northwest part of Houston. Only the storm of June 6-7 at Brickhouse Gully drainage basin produced rainfall totals in excess of 5 inches.



Base from Texas Department of Highways
and Public Transportation General Highway Map

FIGURE 1.- Locations of data-collection sites in the Houston urban study area

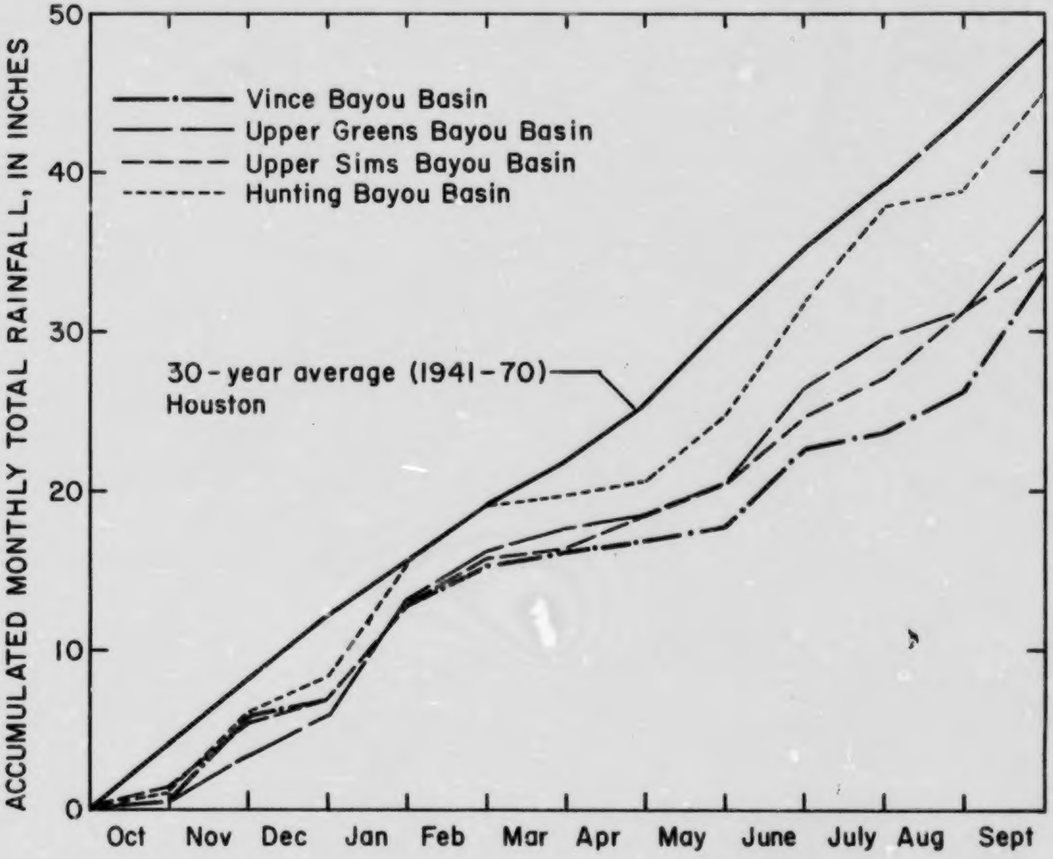


FIGURE 2.-Rainfall at four drainage basins in the Houston metropolitan area, 1978 water year

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08074150 Cole Creek at Deihl Road, Houston	08074150	0.15	No storms published	--	--
	205R	.20			
	23S	.15			
	21R	.50			
08074200 Brickhouse Gully at Clarblak Street, Houston	Not computed	--	June 6-7, 1978	08074200	1.00
			July 28, 1978	08074200	.30
				21R	.70
08074250 Brickhouse Gully at Costa Rica Street, Houston	48074250	.10	June 6-7, 1978	08074250	.15
	08074150	.10		08074200	.50
	205R	.50		08074150	.05
	24S	.15		205R	.30
	21R	.15	July 28, 1978	08074250	.17
				08074200	.30
				08074150	.06
				205R	.30
				21R	.17
08074500 Whiteoak Bayou at Houston	08074250	.10	June 6-7, 1978	08074250	.24
	08074150	.15		08074200	.05
	29R	.20		08074150	.10
	23S	.25		205R	.15
	21R	.15		204R	.17
	10S	.15		29R	.14
				22R	.15
08074760 Brays Bayou at Alief	Not computed	--	June 6-7, 1978	33R	.30
				32R	.70
08074780 Keegans Bayou at Keegan Road, Houston	Not computed	--	June 7	08074780	.35
				303R	.65

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

	Monthly and yearly totals			Storm totals	
Station number and name	Rain gage 1/	Weighted-mean precipitation factors 2/	Date of storm	Rain gage 1/	Weighted-mean precipitation factors 2/
08074800 Keegans Bayou at Roark Road, Houston	08074800	0.45	June 7, 1978	08074800	0.11
	303R	.55		08074780	.43
				303R	.46
08074810 Brays Bayou at Gessner Drive, Houston	Not computed	--	June 6-7, 1978	08074850	.10
				08074800	.20
				08074780	.15
				303R	.15
				33R	.05
				32R	.35
08074850 Bintliff Ditch at Bissonnet Street, Houston	Not computed	--	June 7, 1978	08074850	.55
				39R	.45
08075000 Brays Bayou at Houston	08074800	.20	No storms published	--	--
	308R	.10			
	303R	.05			
	35S	.25			
	34S	.05			
	33R	.05			
	32R	.25			
	31R	.05			
08075400 Sims Bayou at Hiram Clarke Street, Houston	08075400	.40	No storms published	--	--
	304R	.60			
08075470 Sims Bayou at Martin Luther King Blvd., Houston	Not computed	--	No storms published	--	--

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08075500 Sims Bayou at Houston	08075500 08075400 08075470 305R 304R 42S	0.05 .25 .20 .25 .20 .05	No storms published	--	--
08075550 Berry Bayou at Gilpin Street, Houston	Not computed	--	June 27, 1978	08075550 402R	.85 .15
08075650 Berry Bayou at Forest Oaks Street, Houston	Not computed	--	No storms published	--	--
08075730 Vince Bayou at Pasadena	08075650 401R	.25 .75	No storms published	--	--
08075760 Hunting Bayou at Falls Street, Houston	Not computed	--	June 6-7, 1978	08075760	1.00
08075770 Hunting Bayou at Interstate Highway 610, Houston	08075770 101R	.20 .80	June 6-7, 1978	08075770 08075760 101R	.15 .65 .20
08075780 Greens Bayou at Cutten Road near Houston	Not computed	--	No storms published	--	--

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08075900 Greens Bayou at U.S. Highway 75, Houston	08075900	0.25	June 6-7, 1978	08075900	0.22
	204R	.10		08075780	.33
	203R	.40		203R	.30
	29R	.25		29R	.15
08076000 Greens Bayou near Houston	08076000	.15	June 6-7, 1978	08076200	.04
	08075900	.45		08076000	.15
	203R	.20		08075900	.30
	29R	.20		08075780	.15
				204R	.01
				203R	.15
				29R	.10
				20R	.10
08076200 Halls Bayou at Deertrail Street near Houston	Not computed	--	June 6-7, 1978	08076000	.55
				08075900	.05
				204R	.40
08076500 Halls Bayou at Houston	08076000	.20	June 6-7, 1978	08076200	.60
	08075900	.05		08076000	.30
	204R	.25		08075900	.01
	13S	.50		204R	.09

1/ See table 12 for locations of stations other than stream-gaging stations.
2/ See section on "Precipitation Data" for explanation of use of weighted-mean precipitation factors.

Runoff Data

Runoff data are based on discharge measurements and stage records at 18 continuous-record stream-gaging stations, 12 flood-hydrograph partial-record stations, and 2 reservoir-content stations.

Annual records of either daily discharge or maximum gage height at continuous-record stream-gaging stations, maximum discharge at flood-hydrograph partial-record stations, and daily contents of reservoirs are given in the section "Compilation of data."

Figure 3 shows the accumulated monthly runoff from three basins for the 1978 water year and the average runoff for the period 1953-70. The average rainfall for the 1953-70 period was 46 inches or approximately equal to the 30-year (1941-70) rainfall average of 48.19 inches at Houston.

Water-Quality Data

Water-quality data-collection sites in the Houston metropolitan area are shown on figure 1. Water-quality data and streamflow data are presented in downstream order in the section "Compilation of data."

Water-quality data are collected from a wide range of discharge representing various flow conditions, and includes determinations for physical, chemical, and biological parameters. Physical determinations include measurements of temperature, pH, turbudity, suspended and volatile solids, and color. Chemical analyses include specific conductance, dissolved oxygen, standard inorganic chemical (major ions), selected nutrient determinations of total organic carbon, nitrogen, phosphorus, and MBAS (methylene blue active substance). Chemical analyses of trace substances include phenols, minor elements, and pesticides. Biological analyses include measurements of BOD (biochemical oxygen demand) and bacteriological analyses for total coliform, fecal coliform, and fecal streptococci.

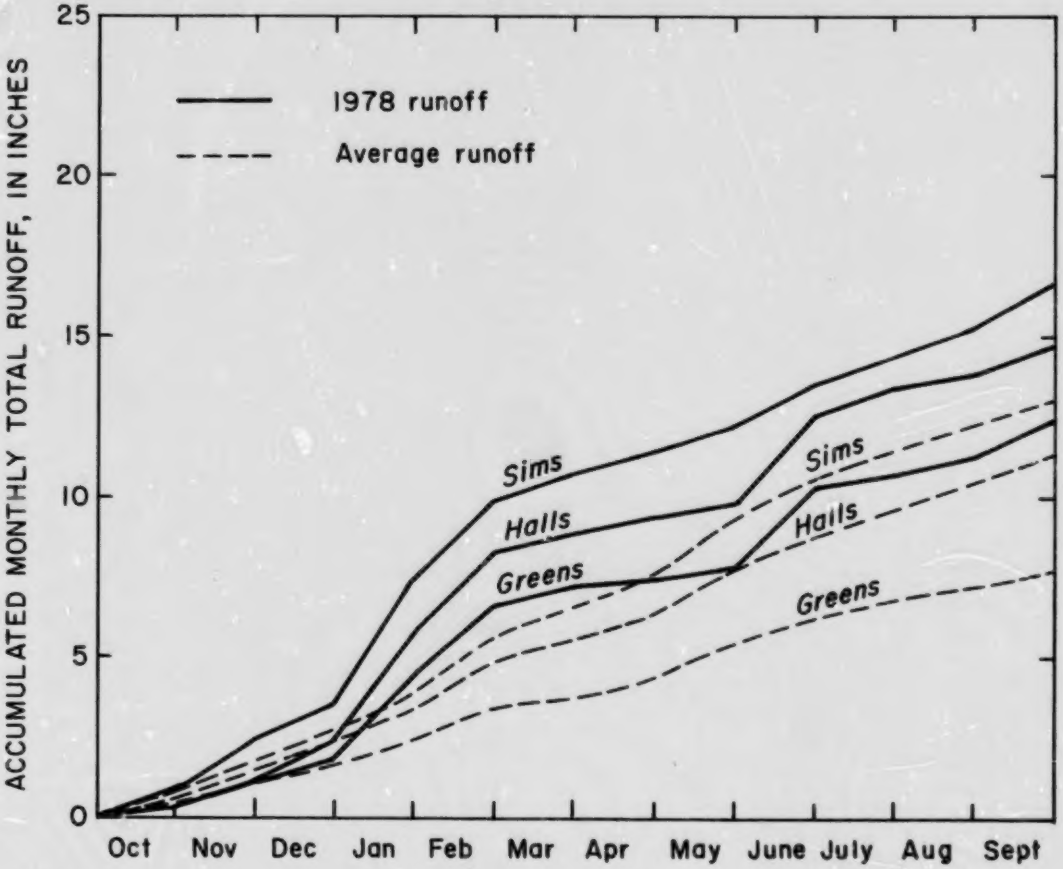


FIGURE 3.-Runoff from three drainage basins in the Houston metropolitan area, 1978 water year, and average runoff for the period 1953-70

Water-quality samples were also collected during major storms to determine the water quality of storm runoff in the Houston metropolitan area. Storm dates and stations where at least three water-quality samples were collected during the storms are:

Station no.	Station name	Date of storm
08074250	Brickhouse Gully at Costa Rica Street, Houston	January 16-17, 1978
08074250	Brickhouse Gully at Costa Rica Street, Houston	May 30-31, 1978
08074550	Little Whiteoak Bayou at Houston	August 28-31, 1978
08075650	Berry Bayou at Forest Oaks Street, Houston	January 16-17, 1978
08075730	Vince Bayou at Pasadena	August 28-31, 1978
08076000	Greens Bayou near Houston	June 6-9, 1978
08076700	Greens Bayou at Ley Road, Houston	December 13-14, 1977
08076700	Greens Bayou at Ley Road, Houston	June 6-9, 1978

SELECTED REFERENCES

Johnson, S. L., and Sayre, D. M., 1978, Effects of urbanization on floods in the Houston, Texas, metropolitan area: U.S. Geological Survey Water-Resources Investigations 3-73, 50 p.

Linsley, R. K., Kohler, M. A., and Paulhus, J. L. H., 1949, Applied hydrology: New York, McGraw-Hill Book Company, Inc., 689 p.

Liscum, Fred, and Massey, B. C., 1980, Technique for estimating the magnitude and frequency of floods in the Houston, Texas, metropolitan area: U.S. Geological Survey Water-Resources Investigations 80-17, 40 p.

U.S. Department of Commerce, Climatography of the United States No. 81 (by State), Monthly normals of temperature, precipitation, and heating and cooling degree days, 1941-70, Texas: National Oceanic and Atmospheric Administration Environmental Data Service, U.S. Department of Commerce publication.

U.S. Geological Survey, 1979, Water resources data for Texas, volume 2: U.S. Geological Survey Water-Data Report, TX-78-2, 515 p.

Waddell, Kidd M., Massey, Bernard C., and Jennings, Marshall E., 1979, Use of the STORM model for estimating the quantity and quality of runoff from the metropolitan area of Houston, Texas: U.S. Geological Survey Water Resources Investigations 79-74, 29 p.

COMPILATION OF DATA

08072500 BARKER RESERVOIR NEAR ADDICKS, TX

LOCATION.--Lat 29°46'11", long 95°38'49", Harris County, Hydrologic Unit 12040104, at dam on Buffalo Bayou, 45 ft (14 m) upstream from reservoir outlet works, 1,160 ft (354 m) upstream from Addicks-Howell county road, 1.1 mi (1.8 km) south of Addicks, and 1.2 mi (1.9 km) upstream from South Mayde Creek.

DRAINAGE AREA.--128 mi^2 (332 km^2). Prior to August 1977, 134 mi^2 (347 km^2). Basin boundary to change due to relocation of drainage ditches. During extreme floods, basin may receive and (or) lose runoff due to basin interchange.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1945 to current year. On October 1973, the upper gage was converted to a flood-hydrograph partial-record station.

REVISED RECORDS.--WDR TX-77-1: Drainage area.

GAGE.--Water-stage recorders. Datum of gage is 0.33 ft (0.101 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--The reservoir is formed by a rolled earthfill dam 72,900 ft (22,200 m) long. The dam was completed Feb. 3, 1946, but was used as early as the spring of 1945 for flood control. The reservoir is operated for flood protection for the city of Houston. The controlled outlet works consist of five concrete conduits, 9 by 7 ft (2.7 by 2.1 m) wide, each controlled by a vertical slide gate. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam	114.0	-
Ground gage height at ends of dam	107.0	207,000
Design flood	101.9	127,900
Crest of spillway (invert)	75.0	0

COOPERATION.--The capacity curve, furnished by the Corps of Engineers, is based on a survey made in 1940.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 39,200 acre-ft (48.3 hm^3) May 15, 1968, gage height, 94.60 ft (28.834 m); minimum reservoir was dry at times.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 9,910 acre-ft (12.2 hm^3) Jan. 21, gage height, 90.00 ft (27.432 m); minimum, 3.4 acre-ft (4,190 m^3) Dec. 10-13, gage height, 75.42 ft (22.988 m).

Capacity table (gage height, in feet, and total contents, in acre-feet)

75.0	1.7	83.0	258
76.0	6.3	84.0	510
77.0	14	85.0	999
78.5	31	86.0	1,830
80.0	55	87.5	3,850
81.0	79	89.0	7,040
82.0	129	90.0	9,910

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	5.6	7.5	3.8	10.0	3.7	3.6	3.6	3.7	6.0	5.8	3.9
2	4.7	7.9	5.5	5.6	8.4	3.7	3.6	3.7	5.8	4.7	6.2	4.8
3	3.9	5.8	4.4	4.6	6.9	3.7	3.6	6.1	70.8	4.4	5.7	7.5
4	4.0	4.2	3.7	4.0	5.7	3.7	3.6	4.7	335.0	4.1	4.7	4.7
5	5.5	3.6	3.5	3.9	4.9	3.7	3.6	3.7	482.0	4.1	4.2	4.2
6	4.7	3.6	3.5	3.6	4.4	3.7	3.6	3.7	526.0	4.5	6.3	3.9
7	4.3	3.6	3.5	3.6	19.2	35.8	3.6	3.7	3640.0	5.0	4.5	3.9
8	4.3	10.9	3.5	3.6	189.0	25.7	3.6	3.6	6770.0	4.7	4.7	4.2
9	4.6	8.4	3.5	3.5	499.0	6.2	3.6	3.6	6890.0	4.4	4.5	3.9
10	4.0	5.5	3.5	3.5	353.0	4.9	3.6	3.6	5900.0	4.3	4.0	27.4
11	3.7	3.8	3.5	18.5	37.4	4.2	3.6	3.6	4570.0	4.5	3.9	103.0
12	4.2	3.6	3.5	138.0	20.3	4.0	4.0	3.6	3120.0	5.3	3.9	175.0
13	4.2	3.6	425.0	103.0	127.0	3.8	3.7	3.6	1660.0	5.9	3.9	357.0
14	3.7	3.6	1490.0	7.2	284.0	3.6	3.7	3.6	479.0	5.4	3.9	649.0
15	3.6	3.6	1380.0	5.1	70.6	3.6	3.6	3.6	12.9	5.6	5.1	982.0
16	3.6	3.6	632.0	422.0	21.1	3.6	3.6	3.6	4.7	6.2	4.0	1060.0
17	3.6	3.6	55.0	2420.0	26.5	3.6	3.6	3.6	4.1	6.0	3.9	834.0
18	3.6	3.6	5.9	3910.0	52.8	3.6	3.5	3.6	3.7	6.2	3.9	465.0
19	3.6	3.6	5.9	7800.0	21.5	3.6	3.5	3.6	3.7	6.3	3.9	89.0
20	3.6	3.6	5.0	9730.0	7.2	3.6	3.5	3.6	3.7	6.2	3.9	16.1
21	3.6	7.5	4.5	9820.0	6.0	3.6	3.5	3.6	3.7	5.6	3.8	13.3
22	3.6	5.3	4.1	9300.0	6.0	3.6	3.6	3.6	3.7	8.0	3.8	12.9
23	4.1	3.8	3.9	8310.0	5.2	3.6	5.2	3.5	3.7	8.5	3.8	13.1
24	15.2	3.7	3.8	5700.0	4.3	3.7	3.8	3.6	3.7	7.9	3.8	12.0
25	4.6	3.7	3.6	5510.0	4.3	3.6	3.6	3.6	3.7	10.5	3.8	35.9
26	3.7	3.6	3.5	3770.0	4.1	3.6	3.6	6.5	3.7	9.1	3.7	91.0
27	3.6	3.6	3.5	2270.0	4.2	3.6	3.8	7.7	3.7	7.8	3.7	67.7
28	3.6	3.6	3.6	919.0	4.1	3.6	3.7	4.4	3.8	6.5	3.7	15.0
29	3.6	17.5	5.8	17.0	---	3.6	3.6	3.9	5.2	5.8	3.7	9.2
30	3.6	12.8	4.7	6.4	---	3.6	3.6	5.4	9.0	5.7	3.9	7.5
31	3.6	---	4.0	7.3	---	3.6	---	3.8	---	5.7	3.9	---
MAX	15	17	1490	9820	499	35	5.2	7.7	6890	10	6.3	1060
MIN	3.6	3.6	3.5	3.5	4.1	3.6	3.5	3.6	3.7	4.1	3.7	3.9

CAL YR 1977 MAX 5090 MIN 3.2
WTR YR 1978 MAX 9820 MIN 3.5

08072500 BARKER RESERVOIR NEAR ADDICKS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: June to September 1978.

294610095385400 - BARKER RESERVOIR OUTFLOW

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JUN												
09...	1455	125	6.4	26.5	240	200	5.8	73	4.9	6700	170	820
15...	1145	215	6.5	28.0	160	40	5.7	73	10	32000	160	1000

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
JUN												
09...	39	8	12	2.1	7.5	.5	2.7	37	0	6.0	12	.2
15...	71	0	22	3.8	13	.7	3.7	89	0	8.1	10	.2

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN											
09...	8.2	69	320	100	.16	.05	.21	.16	1.8	.22	12
15...	11	116	32	1	.00	.01	.01	.01	1.6	.38	14

294617095390501 - BARKER RES LINE 10, SITE 10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JUN							
09...	1100	1.0	137	6.8	26.0	2.3	29
09...	1102	4.0	137	6.4	25.0	.3	4
09...	1104	7.0	137	6.4	25.0	.3	4

294617095390502 - BARKER RES LINE 10, SITE 20

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
JUN												
09...	1202	1.0	137	6.6	27.0	220	200	3.2	41	5.9	6700	500
09...	1204	5.0	137	6.4	25.5	--	--	2.4	30	--	--	--
09...	1206	10	137	6.4	24.5	--	--	1.7	21	--	--	--
09...	1208	12	117	6.4	24.0	220	250	.9	11	6.6	7300	520
15...	0930	1.0	206	6.7	27.0	160	30	.9	11	20	32000	200
15...	0935	5.0	205	6.7	27.5	140	30	.9	12	20	40000	170

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JUN												
09...	720	42	6	13	2.3	8.5	.6	2.9	44	0	7.6	11
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	920	36	5	11	2.6	7.1	.5	2.7	38	0	7.8	9.4
15...	490	68	0	21	3.7	12	.6	3.7	85	0	9.0	15
15...	1000	66	0	20	3.9	12	.6	3.6	87	0	3.9	16

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN												
09...	.2	8.8	76	340	128	.19	.06	.25	.18	1.0	.24	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	.2	7.9	67	436	108	.15	.05	.20	.18	1.2	.25	11
15...	.2	10	117	59	3	.00	.01	.01	.01	2.4	.40	14
15...	.1	7.4	110	87	56	.02	.01	.03	.01	1.8	.39	13

294617095390503 - BARKER RES LINE 10, SITE 30

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JUN							
09...	1210	1.0	137	6.9	27.5	5.8	74
09...	1212	3.0	137	6.8	27.0	5.1	65
09...	1214	5.0	137	6.4	25.0	1.7	21
09...	1216	6.5	137	6.4	25.0	.6	7

SAN JACINTO RIVER BASIN

08073000 ADDICKS RESERVOIR NEAR ADDICKS, TX

LOCATION.--Lat 29°47'28", long 95°37'24", Harris County, Hydrologic Unit 12040104, at dam on South Mayde Creek, 65 ft (20 m) upstream from reservoir outlet works, 2,700 ft (823 m) upstream from U.S. Highway 90, 1.2 mi (1.9 km) east of Addicks, and 1.4 mi (2.3 km) upstream from mouth.

DRAINAGE AREA.--129 mi^2 (334 km^2). Prior to Aug. 1, 1977, 133 mi^2 (344 km^2). Basin boundary change to relocation of drainage ditches. During extreme floods, basin may receive and (or) lose runoff due to basin interchange.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1948 to current year. In October 1973, the upper gages were converted to flood-hydrograph partial-record stations.

REVISED RECORDS.--WDR TX-77-1: Drainage area.

GAGE.--Water-stage recorders. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--The reservoir is formed by a rolled earthfill dam 61,166 ft (18,643 m) long. The dam was completed in December 1948. The reservoir is operated for flood protection for the city of Houston. The outlet works consist of five concrete conduits 8 by 6 ft (2.4 by 1.8 m) wide, each controlled by a vertical slide gate. Runoff in excess of maximum design capacity will be discharged around both ends of dam. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	123.5	-
Ground elevation at ends of dam	114.0	204,500
Design flood	113.0	188,030
Crest of spillway (invert)	73.0	0

COOPERATION.--The capacity curve, furnished by the Corps of Engineers, was based on a survey made in 1940.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 37,460 acre-ft (46.2 hm^3) May 15, 1968, elevation, 100.02 ft (30.486 m); minimum, reservoir was dry at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1935 reached a stage of 89.9 ft (27.40 m) at bridge on U.S. Highway 90, 2,700 ft (823 m) downstream from gage, from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,080 acre-ft (5.03 hm^3) Jan. 20, elevation, 91.88 ft (28.005 m); minimum, reservoir was dry for many days.

Capacity table (elevation, in feet, and total contents, in acre-feet)

73.7	0	85.0	189
76.0	7	86.5	385
78.0	22	88.5	1,020
80.0	46	90.0	2,020
82.0	82	91.0	2,970
84.0	135	92.0	4,260

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.00	.10	.00	2.5	.0	0	0	.00	.35	9.60	.00
2	0	.00	.00	.00	1.1	.0	0	0	31.60	.00	1.20	.00
3	0	.00	.00	.00	.2	.0	0	0	75.70	.00	.25	.00
4	0	.00	.00	.00	.0	.0	0	0	206.00	.00	.00	.00
5	0	.00	.00	.00	.0	.0	0	0	285.00	.00	.00	.00
6	0	.00	.00	.00	.0	.0	0	0	260.00	.00	3.30	.00
7	0	.00	.00	.00	12.5	13.0	0	0	1870.00	.00	.00	.00
8	0	8.80	.00	.25	145.0	1.5	0	0	3530.00	.00	.00	.00
9	0	.63	.00	.00	191.0	.0	0	0	3530.00	.13	.00	.00
10	0	.00	.00	.00	99.2	.0	0	0	2920.00	.00	.00	42.70
11	0	.00	.00	28.30	24.5	.0	0	0	2060.00	.00	.00	106.00
12	0	.00	.00	53.30	34.0	.0	0	0	1190.00	.00	.00	101.00
13	0	.00	68.10	16.90	102.0	.0	0	0	451.00	.08	.00	86.80
14	0	.00	32.70	.33	75.0	.0	0	0	136.00	.00	.00	103.00
15	0	.00	.05	.00	6.0	.0	0	0	37.90	.20	.00	194.00
16	0	.00	.00	119.00	1.0	.0	0	0	.05	.20	.00	335.00
17	0	.00	.00	524.00	12.3	.0	0	0	.00	.00	.00	358.00
18	0	.00	.00	797.00	5.0	.0	0	0	.00	.10	.00	217.00
19	0	.00	.00	3100.00	.8	.0	0	0	.00	2.30	.00	111.00
20	0	.00	.00	4050.00	.0	.0	0	0	.00	1.50	.00	25.80
21	0	.48	.00	3260.00	.0	.0	0	0	.00	1.50	.00	.80
22	0	.00	.00	2000.00	.0	.0	0	0	.00	16.30	.00	.05
23	0	.00	.00	1060.00	.0	.0	0	0	.00	1.80	.00	.00
24	0	.00	.00	683.00	.0	.0	0	0	.00	5.50	.00	.00
25	0	.00	.00	375.00	.0	.0	0	0	.00	7.90	.00	.00
26	0	.00	.00	217.00	.0	.0	0	0	.00	2.40	.00	.00
27	0	.00	.00	120.00	.0	.0	0	0	.00	1.00	.00	.00
28	0	.00	.00	48.00	.0	.0	0	0	1.40	.93	.00	.00
29	0	21.40	.00	2.60	---	.0	0	0	8.80	5.50	.00	.00
30	0	1.30	.00	.00	---	.0	0	0	1.30	17.70	.00	.00
31	0	---	.00	.18	---	.0	---	0	---	25.30	.00	---
MAX	.00	21	68	4050	191	13	.00	.00	3530	25	9.6	358
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL YR 1977 MAX 1800 MIN .00
WTR YR 1978 MAX 4050 MIN .00

08073000 ADDICKS RESERVOIR NEAR ADDICKS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: June to September 1978.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JUN												
09...	1430	94	6.2	25.5	180	120	6.3	79	3.8	3300	190	500
15...	1125	172	6.2	28.0	160	60	5.6	72	15	12000	150	260

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JUN												
09...	28	4	8.4	1.6	4.8	.4	2.6	29	0	4.7	6.3	.2
15...	54	0	17	2.9	9.6	.6	3.6	70	0	5.1	10	.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN											
09...	6.3	49	264	92	.10	.03	.13	.14	1.1	.19	9.8
15...	6.3	89	55	24	.08	.03	.11	.04	1.6	.42	12

294729095372501 - ADDICKS RES LINE 10, SITE 10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JUN							
09...	1325	1.0	89	6.5	24.5	3.1	38
09...	1327	3.0	89	6.3	24.5	1.4	17
09...	1329	5.0	89	6.2	24.5	.4	5
09...	1331	10	89	6.2	24.0	.2	2
09...	1333	13	92	6.2	24.0	.2	2
15...	1030	1.0	171	6.9	28.0	.7	9

SAN JACINTO RIVER BASIN

ADDICKS RESERVOIR NEAR ADDICKS, TX--Continued

294729095372502 - ADDICKS RES LINE 10, SITE 20

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
JUN												
09...	1352	1.0	89	6.2	25.0	14	110	3.8	48	4.3	5000	210
09...	1354	5.0	89	6.1	24.0	--	--	2.2	27	--	--	--
09...	1356	7.0	89	6.1	23.0	--	--	1.6	19	--	--	--
09...	1358	10	89	6.1	23.0	--	--	.3	4	--	--	--
09...	1400	12	92	6.1	23.5	200	200	.3	4	5.0	1200	1000
15...	1050	4.0	171	6.7	27.5	160	60	.9	12	16	30000	170

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JUN												
09...	500	28	5	8.6	1.5	4.6	.4	2.4	28	0	5.1	6.4
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	520	29	3	8.9	1.6	5.2	.4	2.8	31	0	4.7	6.1
15...	210	51	0	16	2.7	9.6	.6	3.8	70	0	4.6	13

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN												
09...	.2	6.2	49	183	64	.11	.04	.15	.20	.80	.18	8.9
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	.2	6.7	51	636	124	.01	.04	.15	.12	1.2	.28	13
15...	.1	7.1	91	74	23	.09	.02	--	.04	1.7	.44	14

294729095372503 - ADDICKS RES LINE 10, SITE 30

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JUN							
09...	1345	1.0	89	6.5	26.0	4.4	55
09...	1347	5.5	89	6.3	24.5	2.9	35
09...	1349	7.0	89	6.1	23.5	.4	5
09...	1351	10	89	6.2	23.5	.5	6

08073500 BUFFALO BAYOU NEAR ADDICKS, TX

LOCATION.--Lat 29°45'42", long 95°36'20", Harris County, Hydrologic Unit 12040104, near right bank at bridge on Dairy-Ashford Road over rectified channel, 1.8 mi (2.9 km) downstream from South Mayde Creek, and 2.6 mi (4.2 km) southeast of Addicks.

DRAINAGE AREA.--293 mi² (759 km²), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1945 to current year.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1.40 ft (0.427 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; records unadjusted to land-surface subsidence. Prior to Feb. 2, 1948, water-stage recorder at bridge on natural channel 1,200 ft (370 m) to right at same datum. Feb. 2 to May 21, 1948, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records poor. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 3.2 and 3.0 mi (5.1 and 4.8 km) upstream, respectively, total capacity 315,900 acre-ft (390 hm³). Extreme low flow is sustained by drainage from irrigated lands.

AVERAGE DISCHARGE.--33 years, 202 ft³/s (5.721 m³/s), 146,300 acre-ft/yr (180 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft³/s (317 m³/s) Aug. 29, 1945, gage height, 81.23 ft (24.759 m), former site; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1896, 85.6 ft (26.09 m) in December 1935, adjusted to former site from floodmark 0.5 mi (0.8 km) downstream, on basis of slope of flood of Aug. 29, 1945, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,790 ft³/s (79.0 m³/s) June 7, gage height, 67.78 ft (20.659 m); minimum daily, 9.4 ft³/s (0.27 m³/s) Nov. 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	45	150	26	230	29	14	11	33	162	263	41
2	57	160	79	29	256	25	13	17	69	86	162	36
3	44	74	47	32	166	23	12	100	440	56	89	92
4	36	44	35	26	109	20	12	64	585	52	61	53
5	40	31	28	20	75	18	17	46	699	52	50	40
6	53	22	22	18	58	17	15	30	1300	49	101	36
7	48	18	20	20	126	262	11	24	1750	54	93	34
8	49	240	22	23	689	381	13	20	663	60	44	40
9	52	200	15	32	893	162	17	18	1340	52	50	46
10	44	120	13	27	1070	68	22	18	1370	78	48	330
11	38	48	19	182	777	43	20	19	1290	45	41	543
12	37	27	17	645	488	33	29	17	1230	52	31	530
13	41	19	800	774	793	28	34	17	1160	77	27	603
14	37	14	700	461	883	26	24	17	992	65	24	590
15	29	12	550	133	755	21	20	14	595	61	30	576
16	26	10	550	698	395	17	14	14	197	79	43	599
17	29	9.8	400	917	338	19	14	17	56	75	33	599
18	23	9.8	110	1350	438	18	15	14	43	68	23	579
19	20	9.4	50	1850	356	16	14	15	38	182	35	545
20	20	9.4	38	1960	182	16	11	15	33	108	37	426
21	18	250	30	1990	95	16	9.6	13	30	98	25	211
22	22	100	26	1880	71	18	26	12	32	114	39	113
23	28	40	23	1700	57	18	53	14	32	262	26	88
24	111	30	20	1630	45	34	34	13	26	140	23	82
25	78	21	20	1560	36	24	24	11	25	221	24	56
26	38	16	16	1460	34	17	16	37	24	253	23	24
27	27	12	15	1270	31	17	19	119	25	160	23	106
28	18	10	15	972	28	15	17	41	44	116	23	161
29	15	150	40	752	---	12	15	21	140	116	24	99
30	12	300	29	194	---	14	13	158	266	158	107	76
31	12	---	26	111	---	14	---	41	---	259	56	---
TOTAL	1188	2051.4	3925	22742	9474	1441	567.6	987	14527	3410	1678	7354
MEAN	38.3	68.4	127	734	338	46.5	18.9	31.8	484	110	54.1	245
MAX	111	300	800	1990	1070	381	53	158	1750	262	263	603
MIN	12	9.4	13	18	28	12	9.6	11	24	45	23	24
AC-FT	2360	4070	7790	45110	18790	2860	1130	1960	28810	6760	3330	14590

CAL YR 1977 TOTAL 41546.4 MEAN 114 MAX 1150 MIN 6.0 AC-FT 82410
WTR YR 1978 TOTAL 69345.0 MEAN 190 MAX 1990 MIN 9.4 AC-FT 137500

08073500 BUFFALO BAYOU NEAR ADDICKS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: August 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
DEC										
05...	1245	27	409	7.5	21.0	240	110	6.9	79	--
JAN										
18...	0915	1260	103	6.9	8.0	280	200	10.5	91	4.5
APR										
25...	1030	25	510	7.2	23.0	60	160	6.0	71	12
JUN										
08...	1325	616	136	7.1	26.5	160	120	6.4	81	4.9
09...	1220	1310	118	6.4	26.5	200	100	6.2	78	4.2
15...	0905	654	204	6.6	28.0	140	40	3.1	40	13
JUL										
12...	0940	47	512	7.2	28.0	60	100	5.4	69	9.3
AUG										
02...	1020	163	369	7.0	28.0	120	60	6.7	86	4.1
23...	1130	25	539	7.1	25.0	60	100	4.9	60	4.9
SEP										
27...	0950	28	449	7.3	24.0	160	50	6.0	73	6.7

DATE	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
DEC										
05...	35000	1300	500	--	--	--	--	--	--	--
JAN										
18...	120000	6700	8000	--	--	--	--	--	--	--
APR										
25...	56000	1200	950	130	5	39	7.4	48	1.8	5.0
JUN										
08...	54000	2100	340	--	--	--	--	--	--	--
09...	25000	500	800	--	--	--	--	--	--	--
15...	34000	190	580	68	0	21	3.7	12	.6	3.8
JUL										
12...	12000	2000	900	130	0	41	6.3	49	1.9	3.6
AUG										
02...	9300	600	220	--	--	--	--	--	--	--
23...	100000	7000	950	--	--	--	--	--	--	--
SEP										
27...	13000	500	150	--	--	--	--	--	--	--

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
DEC										
05...	--	--	--	--	--	--	--	162	28	1.3
JAN										
18...	--	--	--	--	--	--	--	384	64	.36
APR										
25...	150	0	34	55	.5	14	277	302	68	1.8
JUN										
08...	--	--	--	--	--	--	--	246	44	.27
09...	--	--	--	--	--	--	--	162	56	.17
15...	95	0	8.2	14	.2	10	115	64	19	.08
JUL										
12...	170	0	18	57	.4	14	274	198	41	.63
AUG										
02...	--	--	--	--	--	--	--	180	31	.35
23...	--	--	--	--	--	--	--	246	36	1.2
SEP										
27...	--	--	--	--	--	--	--	49	24	1.1

08073500 BUFFALO BAYOU NEAR ADDICKS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
DEC									
05...	.08	1.4	.21	1.5	1.7	1.3	14	--	.20
JAN									
18...	.01	--	.18	1.0	1.1	.31	16	--	.00
APR									
25...	.23	2.0	.39	1.5	1.9	2.2	15	--	.40
JUN									
08...	.05	.32	.10	1.2	1.3	.30	12	--	.00
09...	.05	.22	.16	.71	.87	.01	12	--	.00
15...	.01	.01	.07	2.0	2.1	.41	13	--	--
JUL									
12...	.15	.78	.15	1.5	1.6	1.1	10	0	.00
AUG									
02...	.05	.40	.26	.74	1.0	.46	8.9	3	.10
23...	.17	1.4	.39	1.2	1.6	1.0	11	--	.00
SEP									
27...	.12	1.2	.14	1.4	1.5	1.4	12	--	.20

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JUN							
05...	1250	2	300	1	10	3	40
JUL							
12...	0940	5	500	0	20	4	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUN						
05...	1	0	.2	0	0	10
JUL						
12...	0	0	.0	0	0	0

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JUN									
05...	1250	.0	.00	.00	.0	.00	.00	.00	.09
JUL									
12...	0940	.0	.00	.00	.0	.00	.00	.00	.30
AUG									
02...	1020	.0	.00	.00	.0	.00	.00	.00	.10

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
JUN									
05...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL									
12...	.01	.00	.00	.00	.00	.00	.01	.00	.01
AUG									
02...	.01	.00	.00	.00	.00	.00	.00	.00	.01

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN								
05...	.00	.00	.01	0	.00	.01	.03	.00
JUL								
12...	.00	.00	.00	0	.00	.01	.01	.00
AUG								
02...	.00	.00	.00	0	.06	.02	.03	.00

SAN JACINTO RIVER BASIN

08073600 BUFFALO BAYOU AT WEST B DRIVE, HOUSTON, TX

LOCATION.--Lat 29°45'43", long 95°33'27", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on West Belt Drive in west Houston, 100 ft (30 m) downstream from Rummel Creek, 3.5 mi (5.6 km) downstream from station 08073500, and 3.7 mi (6.0 km) upstream from station 08073700.

DRAINAGE AREA.--307 mi^2 (795 km^2), unadjusted for basin boundary changes.

PERIOD OF RECORD.--September 1971 to current year.

GAGE.--Water-stage recorders and crest-stage gage. Datum of gage is 0.67 ft (0.204 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Records fair. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 10.1 and 10.3 mi (16.3 and 16.6 km) upstream, respectively. Low flow is sustained by sewage effluent from Houston suburbs. Several observations of water temperature were made during the current year. The Corps of Engineers has a gage-height telemeter at station.

AVERAGE DISCHARGE.--7 years, 315 ft^3/s (8.912 m^3/s), 228,200 acre-ft/yr (281 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,770 ft^3/s (107 m^3/s) Mar. 20, 1972, gage height, 62.15 ft (18.943 m); minimum daily, 25 ft^3/s (0.71 m^3/s) Nov. 21, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,520 ft^3/s (99.7 m^3/s) June 7, gage height, 60.34 ft (18.392 m); minimum daily, 34 ft^3/s (0.96 m^3/s) Nov. 16, May 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	146	177	42	245	54	37	37	54	166	283	74
2	89	168	106	55	256	52	38	39	95	108	200	61
3	74	112	75	50	193	50	37	161	432	77	136	128
4	64	81	58	44	149	47	37	86	582	68	106	87
5	66	63	51	42	115	46	40	71	681	64	91	68
6	86	52	45	39	94	45	40	55	1340	62	215	62
7	79	49	42	42	226	246	36	48	2520	66	153	67
8	82	271	41	50	821	349	38	43	743	70	89	72
9	97	231	40	61	890	180	41	40	1250	75	89	81
10	76	132	38	50	1130	89	49	38	1360	102	84	376
11	66	81	37	270	870	68	48	42	1310	66	75	677
12	63	59	37	631	662	60	66	40	1240	69	63	579
13	67	47	886	802	851	58	64	38	1190	87	59	699
14	65	43	742	515	921	55	52	36	1080	82	57	695
15	56	38	565	166	815	51	46	35	694	78	59	622
16	51	34	554	994	423	45	38	36	214	90	76	644
17	51	38	435	1060	406	44	38	40	77	89	65	645
18	50	35	170	1440	439	44	39	39	65	82	56	629
19	49	35	68	2050	352	40	38	37	62	217	82	591
20	48	38	57	1920	196	40	36	37	57	159	70	464
21	48	297	46	1980	120	40	35	35	54	147	57	226
22	59	143	41	1900	97	42	69	35	56	176	92	129
23	58	74	40	1790	86	43	99	37	57	280	58	108
24	135	52	40	1730	73	74	63	36	53	180	53	103
25	117	45	38	1640	62	48	51	34	51	238	54	84
26	63	41	37	1530	59	40	42	83	50	287	53	51
27	49	39	37	1370	56	40	43	117	52	209	53	95
28	45	38	36	1050	54	38	42	69	65	174	54	174
29	44	198	67	828	---	37	40	83	159	167	54	121
30	44	349	52	234	---	37	39	226	243	200	133	103
31	42	---	46	161	---	38	---	68	---	276	102	---
TOTAL	2094	3029	4704	24536	10661	2140	1381	1821	15886	4211	2871	8515
MEAN	67.5	101	152	791	381	69.0	46.0	58.7	530	136	92.6	284
MAX	135	349	886	2050	1130	349	99	226	2520	287	283	699
MIN	42	34	36	39	54	37	35	34	50	62	53	51
AC-FT	4150	6010	9330	46670	21150	4240	2740	3610	31510	8350	5690	16890

CAL YR 1977 TOTAL 52556 MEAN 144 MAX 1100 MIN 34 AC-FT 104200
WTR YR 1978 TOTAL 81849 MEAN 224 MAX 2520 MIN 34 AC-FT 162300

SAN JACINTO RIVER BASIN

08073700 BUFFALO BAYOU AT PINEY POINT, TX

LOCATION.--Lat 29°44'48", long 95°31'24", Harris County, Hydrologic Unit 12040104, on downstream side of bridge on Piney Point Road, village of Piney Point, 3.7 mi (6.0 km) downstream from Rummel Creek, 7.2 mi (11.6 km) downstream from gage near Addicks (station 08073500), and 12.5 mi (20.1 km) upstream from gage at Houston (station 08074000).

DRAINAGE AREA.--317 mi^2 (821 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1963 to September 1976, October 1976 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 1.35 ft (0.412 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Station is operated for the purpose of gate regulations at Barker and Addicks Reservoirs (stations 08072500 and 08073000), located 14.0 and 13.8 mi (22.5 and 22.2 km) upstream, respectively. Low flow is partly sustained by sewage effluent from Houston suburbs. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years (water years 1963-76), 265 ft^3/s (7.505 m^3/s), 192,000 acre-ft/yr (237 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,470 ft^3/s (127 m^3/s) June 13, 1973, gage height, 54.98 ft (16.758 m); minimum daily, 6.0 ft^3/s (0.17 m^3/s) Dec. 6, 7, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 52.71 ft (16.066 m) June 7; minimum, 32.25 ft (9.830 m) Oct. 30.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.12	38.48	36.20	---	36.52	33.04	32.96	32.85	33.52	36.04	36.13	34.58
2	33.77	38.28	34.70	---	36.57	33.44	32.98	34.75	37.43	35.25	36.06	33.50
3	33.39	34.71	---	33.30	36.20	33.40	32.99	37.57	38.80	34.22	34.87	34.70
4	33.20	33.97	---	33.20	35.55	33.34	32.95	34.43	39.08	33.80	34.23	34.20
5	33.10	33.44	33.30	33.10	35.05	33.31	32.98	33.92	39.98	33.64	33.88	33.60
6	---	33.15	33.18	33.10	34.62	33.24	33.10	33.54	48.81	33.60	39.12	33.50
7	---	32.95	32.98	---	41.30	37.06	32.42	33.30	52.71	33.68	35.76	33.97
8	---	40.00	33.06	---	41.77	37.44	32.97	33.05	46.30	33.72	34.32	33.97
9	35.40	36.94	32.97	33.70	41.54	36.90	33.11	32.98	43.80	34.70	34.16	35.10
10	---	35.25	33.00	33.40	41.98	34.76	33.62	32.92	43.90	34.72	33.80	41.90
11	---	34.30	32.98	40.60	41.49	33.98	33.51	33.02	43.65	34.04	33.68	41.90
12	33.13	33.63	32.97	40.40	41.56	33.68	34.50	32.98	43.25	33.89	33.43	38.80
13	33.19	33.28	43.94	40.00	41.16	33.64	34.33	32.90	42.95	34.07	33.38	41.50
14	33.20	33.04	42.57	39.90	40.81	33.48	33.42	32.87	42.65	34.07	33.24	41.30
15	33.05	33.13	39.72	37.00	40.73	33.35	33.23	32.83	41.00	33.90	33.37	39.10
16	32.95	33.13	38.73	46.60	39.70	33.27	33.05	32.80	38.20	34.10	33.60	39.20
17	32.84	35.21	38.28	44.10	39.90	33.22	32.94	32.97	---	34.16	33.42	39.20
18	32.80	---	36.00	45.50	38.28	33.29	33.05	32.93	---	34.00	33.17	39.15
19	32.76	---	34.00	46.78	37.83	33.15	32.93	32.90	33.70	37.18	35.08	39.00
20	32.72	---	33.60	45.49	36.67	33.14	32.88	32.89	33.60	35.79	34.64	38.60
21	32.70	40.12	33.40	45.60	35.25	33.13	32.84	32.88	33.50	34.92	33.31	37.00
22	33.78	---	33.20	45.60	34.56	33.15	36.59	32.85	33.45	36.65	35.39	34.80
23	33.78	---	33.10	45.06	34.38	33.18	36.60	32.86	33.48	36.28	34.39	34.50
24	35.19	---	---	44.68	34.10	35.03	33.92	32.83	33.43	35.58	33.12	34.40
25	35.21	---	---	44.39	33.79	33.45	33.42	32.79	33.30	36.04	33.17	34.10
26	33.72	---	---	44.02	33.71	33.14	33.08	35.95	33.27	37.01	33.12	33.20
27	33.15	---	33.00	43.49	33.11	33.15	33.06	35.00	33.63	36.92	33.18	35.40
28	32.92	---	33.00	42.20	33.03	33.03	33.07	34.70	34.52	35.53	33.18	35.50
29	32.72	36.90	34.50	41.10	---	33.00	32.99	41.50	37.98	35.53	33.18	34.43
30	32.69	37.70	33.40	39.36	---	32.93	32.94	41.82	36.38	35.68	36.73	34.25
31	32.63	---	---	36.47	---	33.01	---	34.94	---	36.14	35.38	---
MAX	---	---	---	---	41.98	37.44	36.60	41.82	---	37.18	39.12	41.90
MIN	---	---	---	---	33.03	32.93	32.42	32.79	---	33.60	33.12	33.20

08073700 BUFFALO BAYOU AT PINEY POINT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
DEC 06...	0920	45	722	7.6	17.5	120	50	4.7	51	--
JAN 18...	1030	1140	120	7.0	8.0	280	200	10.5	91	4.8
APR 25...	1130	51	705	7.4	24.5	40	60	4.0	49	22
JUN 05...	1400	664	219	6.7	26.5	200	100	5.6	71	10
07...	1145	3430	132	6.9	24.5	200	150	6.0	73	9.6
JUL 11...	1145	59	635	7.2	29.0	80	100	1.7	22	20
AUG 08...	1035	71	525	7.4	28.5	70	100	4.2	55	12
SEP 27...	1110	42	723	7.3	25.5	60	20	3.6	45	19

DATE	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
DEC 06...	120000	650	720	--	--	--	--	--	--	--
JAN 18...	140000	8000	3800	--	--	--	--	--	--	--
APR 25...	38000	720	580	140	0	42	7.9	80	3.0	7.4
JUN 05...	32000	1300	220	61	2	19	3.2	17	1.0	3.5
07...	200000	19000	7200	43	2	14	2.0	7.4	.5	2.6
JUL 11...	300000	19000	2500	130	0	39	6.7	72	2.8	6.3
AUG 08...	31000	3100	600	--	--	--	--	--	--	--
SEP 27...	10000	720	60	--	--	--	--	--	--	--

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
DEC 06...	--	--	--	--	--	--	--	108	34	.61
JAN 18...	--	--	--	--	--	--	--	412	64	.36
APR 25...	230	0	37	73	.6	17	378	103	24	.81
JUN 05...	72	0	14	21	.2	9.8	123	204	64	.40
07...	50	0	7.1	7.3	.2	6.2	71	428	72	.20
JUL 11...	220	0	23	62	.6	18	337	191	51	.42
AUG 08...	--	--	--	--	--	--	--	204	36	.81
SEP 27...	--	--	--	--	--	--	--	30	28	.72

08073700 BUFFALO BAYOU AT PINEY POINT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
DEC									
06...	.35	.96	7.0	2.0	9.0	9.0	12	--	1.0
JAN									
18...	.01	--	.30	1.0	--	.39	15	--	.00
APR									
25...	.39	1.2	6.0	.60	6.6	4.7	12	--	.70
JUN									
05...	.14	.54	.95	1.3	2.2	.43	10	1	.00
07...	.05	.25	.17	.83	1.0	.32	11	--	.00
JUL									
11...	.37	.79	2.4	4.7	7.1	4.3	11	2	.10
AUG									
08...	.39	1.2	2.4	1.4	3.8	2.5	10	--	.30
SEP									
27...	.68	1.4	6.0	1.6	7.6	4.5	9.8	4	.70

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JUN							
05...	1400	3	200	0	0	2	40
JUL							
11...	1145	4	400	0	0	4	20
SEP							
27...	1110	4	0	0	0	8	50

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUN						
05...	1	0	.2	0	0	0
JUL						
11...	0	0	.0	0	0	10
SEP						
27...	0	10	.0	0	0	20

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JUN									
05...	1400	.0	.00	.00	.0	.00	.00	.00	.09
JUL									
11...	1145	.0	.00	.00	.1	.00	.00	.00	1.4
SEP									
27...	1110	.0	.00	.00	.0	.00	.00	.00	.72

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
JUN									
05...	.01	.00	.00	.00	.00	.00	.01	.00	.00
JUL									
11...	.02	.00	.00	.00	.00	.00	.04	.12	.00
SEP									
27...	.01	.00	.00	.00	.00	.00	.19	.00	.04

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN								
05...	.00	.00	.00	0	.00	--	--	--
JUL								
11...	.00	.00	.00	0	.00	.00	.04	.00
SEP								
27...	.00	.00	.00	0	.00	--	--	--

SAN JACINTO RIVER BASIN

08074000 BUFFALO BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°45'36", long 95°24'30", Harris County, Hydrologic Unit 12040104, at bridge on Shepherd Drive in Houston and 0.8 mi (1.3 km) upstream from Waugh Drive.

DRAINAGE AREA.--358 mi^2 (927 km^2), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to September 1957, October 1957 to December 1961 (high-water records and discharge measurements), January 1962 to September 1975, October 1975 to current year (high-water records and discharge measurements).

REVISED RECORDS.--WSP 1732: Drainage area (former site).

GAGE.--Water-stage recorder. Datum of gage is 1.36 ft (0.414 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; records unadjusted for land-surface subsidence. Prior to June 19, 1936, nonrecording gage, and June 19, 1936, to Jan. 16, 1962, water-stage recorder at site 0.8 mi (1.3 km) downstream at 4.08-foot (1.244 m) lower datum. Jan. 17, 1962, to Sept. 30, 1973, auxiliary water-stage recorder 0.8 mi (1.3 km) downstream. Water-stage recorder at Main Street (station 08074600) used as auxiliary gage after Sept. 30, 1973.

REMARKS.--Water-discharge records fair. Although floodflows are regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) located 26.3 and 26.8 mi (42.3 and 42.6 km) upstream, respectively, flood peaks from the urbanized areas below these reservoirs are often independent of the regulation. Discharge is computed using a stage-fall-discharge relationship for all storms which produce peak discharges above 1,500 ft^3/s (42.5 m^3/s). Discharges below 1,000 ft^3/s (28.3 m^3/s) are computed or estimated following designated storm periods only. Low flow is mostly sustained by sewage effluent from Houston suburbs. Gage heights are affected by tides, backwater from Whiteoak Bayou, and other streams. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--8 years (water years 1936-44) unregulated, 272 ft^3/s (7.703 m), 197,100 acre-ft/yr (243 hm^3/yr); 26 years (water years 1944-57, 1962-75) regulated, 274 ft^3/s (7.760 m^3/s), 198,500 acre-ft/yr (245 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft^3/s (309 m^3/s) Aug. 30, 1945, gage height, 28.82 ft (8.784 m), at site 0.8 mi (1.3 km) downstream at present datum; minimum daily, 1.3 ft^3/s (0.037 m^3/s) May 24, 1939, Nov. 5, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--All flood data at site 0.8 mi (1.3 km) downstream at present datum. Maximum gage height since at least 1835, 49.0 ft (14.94 m) Dec. 9, 1935, discharge 40,000 ft^3/s (1,130 m^3/s); furnished by engineer for Harris County. Flood of May 31, 1929, reached a gage height of 43.5 ft (13.26 m), discharge 19,000 ft^3/s (538 m^3/s), at bridge on Capitol Avenue 2.8 mi (4.5 km) downstream, from rating curve extended above 15,300 ft^3/s (433 m^3/s), stage-discharge relation materially affected by bridge; furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,660 ft^3/s (160 m^3/s) June 7, gage height, 19.34 ft (5.895 m); minimum discharge not determined (affected by tides).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	---	---			---	---			
2			---	---	---			---	---			
3			---	---	---			---	---			
4			---	---	---			---	---			
5			---	---	---			---	---			
6			---	---	---			---	1610			
7			---	---	281			---	4440			
8			---	---	1320			---	2080			
9			---	---	938			---	1360			
10			---	---	1110			---	1660			
11			---	407	1100			---	1650			
12			---	982	1150			---	1530			
13			1110	746	1020			---	1520			
14			1160	---	882			---	1430			
15			693	---	903			---	1120			
16			---	1410	678			---	702			
17			---	1930	---			---	---			
18			---	1470	---			---	---			
19			---	2490	---			---	---			
20			---	1860	---			---	---			
21			---	1890	---			---	---			
22			---	1880	---			---	---			
23			---	1860	---			---	---			
24			---	1840	---			---	---			
25			---	1670	---			---	---			
26			---	1530	---			---	---			
27			---	1480	---			---	---			
28			---	1180	---			---	---			
29			---	974	---			327	---			
30			---	549	---			1090	---			
31			---	250	---			413	---			
TOTAL			---	---	---			---	---			
MEAN			---	---	---			---	---			
MAX			---	---	---			---	---			
MIN			---	---	---			---	---			
AC-FT			---	---	---			---	---			

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
DEC										
14...	1110	1190	175	--	18.0	160	220	6.0	65	26
JAN										
17...	1315	1680	159	7.7	11.5	180	180	8.9	84	9.0
JUN										
05...	1050	1010	217	6.4	26.5	200	200	4.7	59	13
07...	1335	5080	136	7.2	24.5	180	150	5.6	68	5.9
JUL										
11...	0940	221	606	6.9	28.5	90	10	2.1	27	10
AUG										
08...	0925	104	420	6.9	27.0	70	100	4.0	51	9.6
SEP										
06...	0845	72	661	7.3	23.0	80	65	5.7	68	16

DATE	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
DEC										
14...	400000	120000	48000	--	--	--	--	--	--	--
JAN										
17...	480000	26000	16000	--	--	--	--	--	--	--
JUN										
05...	100000	11000	620	60	3	19	3.0	17	1.0	3.6
07...	220000	51000	16000	45	0	15	1.9	6.9	.4	2.6
JUL										
11...	180000	40000	6000	130	0	42	7.0	67	2.5	5.9
AUG										
08...	110000	40000	500	--	--	--	--	--	--	--
SEP										
06...	39000	28000	820	130	0	41	7.1	75	2.8	7.4

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
DEC										
14...	--	--	--	--	--	--	--	572	12	.41
JAN										
17...	--	--	--	--	--	--	--	356	60	.28
JUN										
05...	69	0	14	20	.3	7.8	119	328	48	.43
07...	55	0	7.1	6.4	.2	5.3	73	440	48	.21
JUL										
11...	200	0	25	62	.4	17	325	25	18	.78
AUG										
08...	--	--	--	--	--	--	--	308	49	1.1
SEP										
06...	230	0	31	62	.5	22	360	113	14	.87

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DEC 14...	.01	.42	.45	1.4	1.8	.59	18	--	.00
JAN 17...	.03	.31	.39	1.2	1.6	.45	16	--	.00
JUN 05...	.18	.61	.85	1.7	2.5	.85	14	3	.10
07...	.04	.25	.17	1.3	1.5	.39	12	--	.00
JUL 11...	.72	1.5	2.1	1.5	3.6	3.6	7.8	2	.20
AUG 08...	.35	1.4	.60	1.0	1.6	1.3	11	--	.10
SEP 06...	.43	1.3	4.2	1.4	5.6	3.9	13	1	.10

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
JUN 05...	1050	5	300	0	0	2	30
JUL 11...	0940	8	500	0	0	4	20
SEP 06...	0845	2	200	0	0	0	20

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
JUN 05...	1	0	.2	0	0	10
JUL 11...	0	0	.0	1	0	10
SEP 06...	0	0	.0	1	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
JUN 05...	1050	.0	.00	.00	.0	.01	.00	.17	.15
JUL 11...	0940	.0	.00	.00	.1	.00	.00	.00	.75
SEP 06...	0845	.0	.00	.00	.1	.01	.00	.00	.55

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
JUN 05...	.01	.00	.00	.00	.00	.00	.01	.00	.00
JUL 11...	.02	.00	.00	.00	.00	.01	.04	.15	.00
SEP 06...	.08	.00	.00	.00	.00	.01	.03	--	.01

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 05...	.00	.00	.01	0	.00	.03	.06	.00
JUL 11...	.00	.00	.00	0	.00	.07	.09	.00
SEP 06...	.00	.00	.06	0	.00	.02	.00	.00

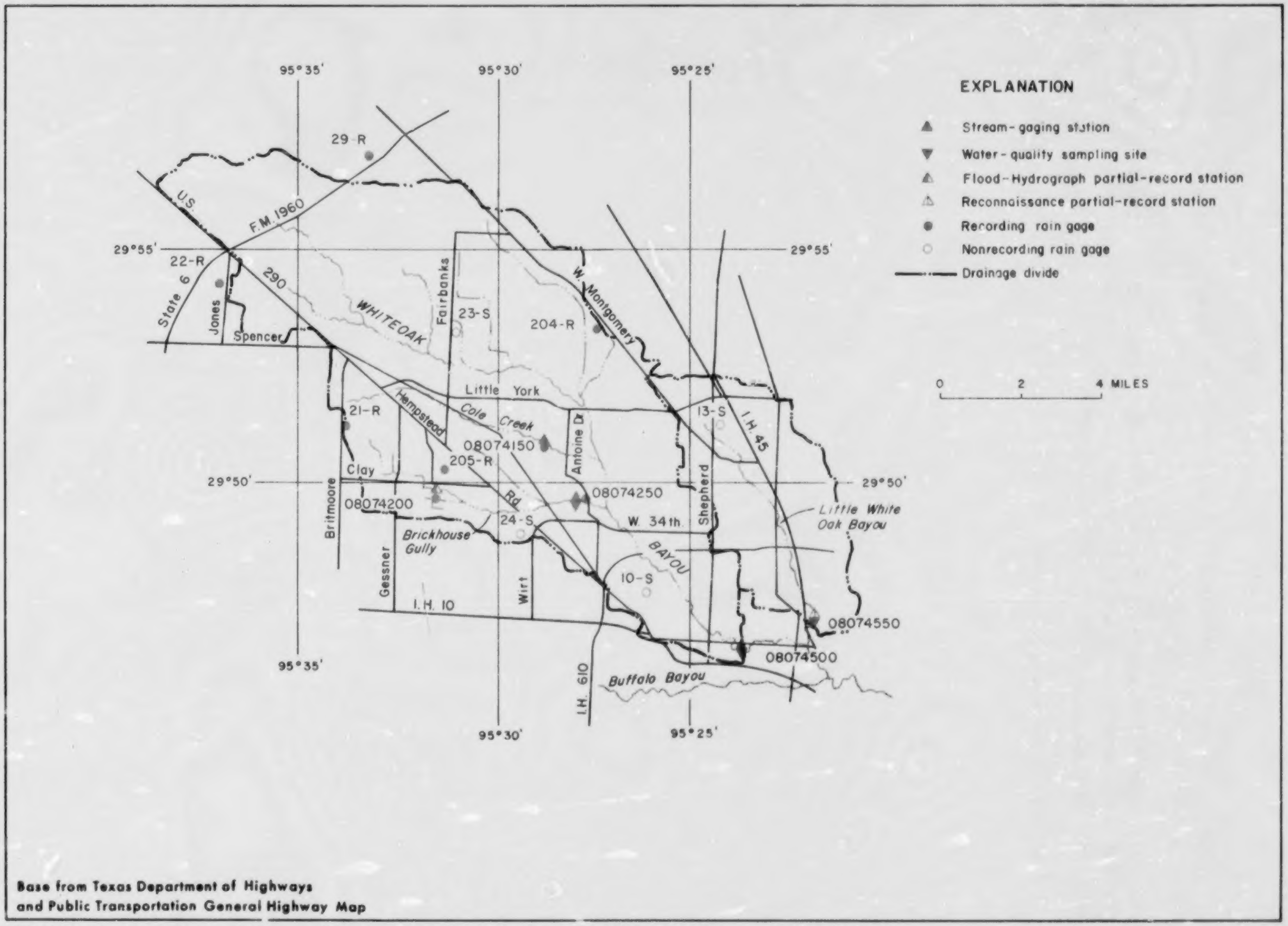
WHITEOAK BAYOU DRAINAGE BASIN

The locations of data-collection sites used for computations for Whiteoak Bayou at Houston are shown on figure 4

Brickhouse Gully and Cole Creek are shown as separate drainage basins within the Whiteoak Bayou section.

Weighted-mean rainfall in the drainage basins, based on six rain gages, for the 1978 water year was 41.1 inches or 7.1 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storm of June 6-7 was selected for analysis at the Whiteoak Bayou at Houston (08074500) gaging stations.



Base from Texas Department of Highways and Public Transportation General Highway Map

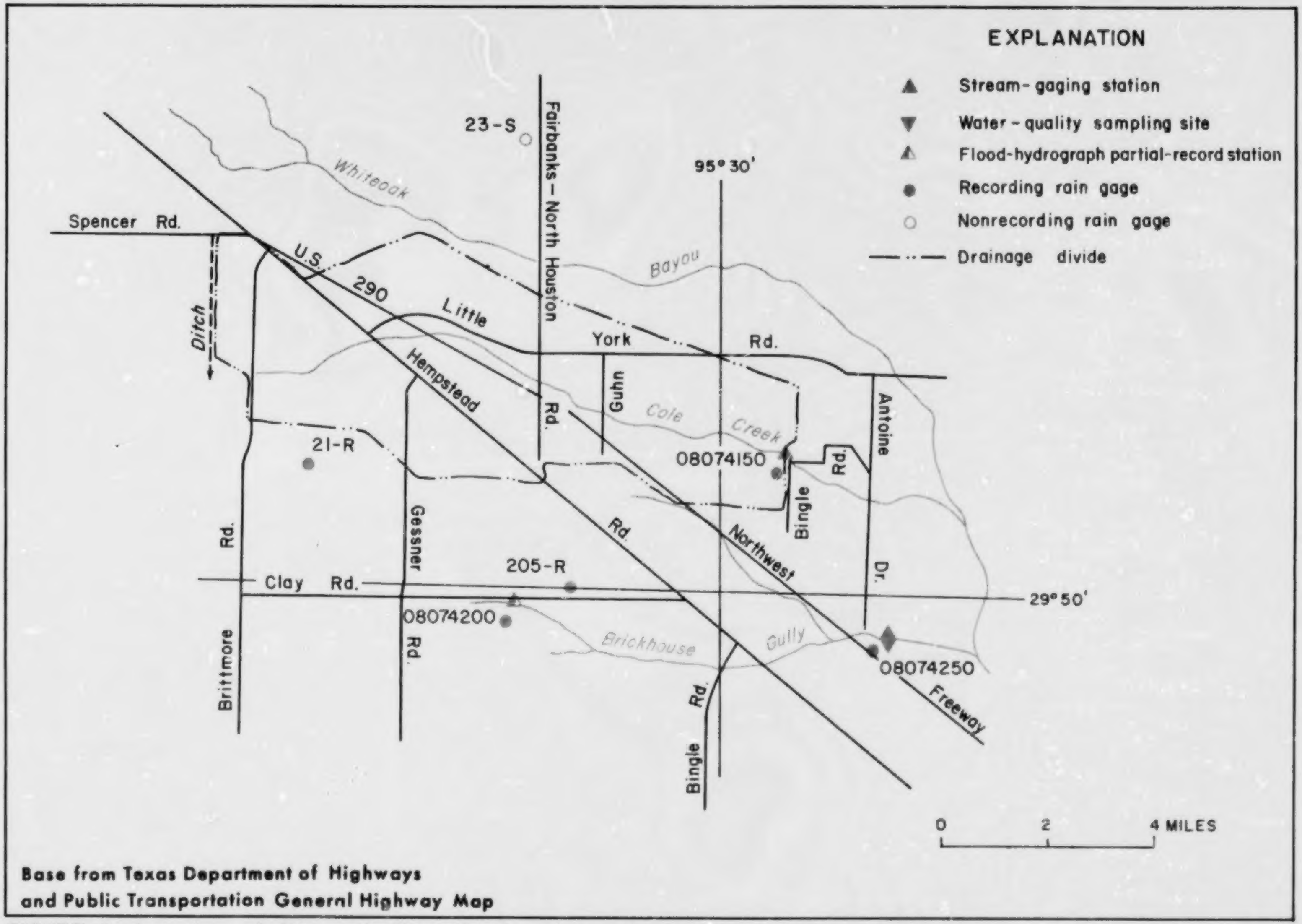
FIGURE 4.-Locations of data-collection sites in and near the Whiteoak Bayou drainage basin

COLE CREEK DRAINAGE BASIN

he locations of data-collection sites in and near the Cole Creek drainage basin are shown on figure 5.

Weighted-mean rainfall in the drainage basins, based on four rain gages, for the 1978 water year was 42.3 inches, or 5.9 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

No storms were analyzed for the 1978 water year.



Base from Texas Department of Highways and Public Transportation General Highway Map

FIGURE 5.-Locations of data-collection sites in and near the Cole Creek drainage basin

SAN JACINTO RIVER BASIN

08074150 COLE CREEK AT DEIHL ROAD, HOUSTON, TX

LOCATION.--Lat 29°51'04", long 95°29'16", Harris County, Hydrologic Unit 12040104, on downstream side of bridge at Deihl Road in northwest Houston and 1.8 mi (2.9 km) upstream from mouth.

DRAINAGE AREA.--7.33 mi² (18.98 km²). Prior to Oct. 1, 1976, 8.05 mi² (20.85 km²).

PERIOD OF RECORD.--April 1964 to current year. Gage at temporary location 1.0 mi (1.6 km) downstream at Antoine Drive May 18, 1965, to Sept. 1, 1966, due to bridge construction and channel rectification.

REVISED RECORDS.--WDR TX-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records poor. No diversion above station. Low flow is partly sustained by sewage effluent from Houston suburbs. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--14 years, 7.59 ft³/s (0.215 m³/s), 5,500 acre-ft/yr (6.78 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,020 ft³/s (57.2 m³/s) Mar. 20, 1972, elevation, 78.60 ft (23.957 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11.3 m³/s), revised, and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Dec. 13	0830	738	20.9	75.89	23.131	June 7	0330	*850	24.1	76.85	23.424
Jan. 16	1500	423	12.0	74.46	22.695	July 28	1630	693	19.6	76.26	23.244

Minimum daily discharge, 0.01 ft³/s (0.0003 m³/s) Nov. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	8.0	1.1	.16	8.4	.87	1.0	.36	48	.40	1.1	.74
2	.36	10	.32	1.5	4.5	1.0	.76	4.3	60	.44	.56	.54
3	.18	.68	.19	.68	3.2	1.2	.96	72	57	.45	.37	.59
4	.13	.11	.13	.33	2.5	.76	.77	.99	7.7	.30	.33	1.8
5	.13	.02	.10	.21	1.9	.68	.69	.56	.83	31	.35	.53
6	.12	.01	.04	.15	1.5	.78	.65	.60	169	1.9	9.4	.25
7	.11	.01	.03	.23	25	15	.64	.27	354	.30	5.0	2.1
8	.28	16	.04	.20	71	3.9	.84	.21	98	.22	.56	2.3
9	.09	4.5	.06	.13	18	1.7	.78	.15	13	.21	.28	1.2
10	.11	.65	.06	.11	9.9	1.5	.61	.10	3.5	.20	.21	13
11	.41	.17	.05	34	5.9	1.1	.83	.08	1.8	.29	.18	22
12	.24	.09	.02	23	75	.73	1.1	.11	1.1	.23	.75	4.0
13	.20	.04	258	2.3	50	1.0	.76	.10	1.5	.17	1.3	18
14	.17	.03	20	.93	13	1.0	.52	.06	1.1	.13	2.2	24
15	.15	1.2	3.2	.36	7.5	.86	.45	.06	.72	.13	1.2	3.0
16	.13	.28	1.1	162	6.8	.65	.36	.16	.54	.14	.23	1.1
17	.12	.11	.54	56	26	.62	.36	.15	.47	.16	.20	.50
18	.11	.05	.38	69	14	.58	.35	.33	.74	.21	.15	.30
19	.10	.04	.33	171	6.3	.62	.32	.31	.57	.34	.35	.24
20	.12	.04	.29	23	4.0	.64	.30	4.3	.51	.32	.27	.33
21	.11	9.9	.24	10	2.7	.65	.30	.42	.46	.43	2.1	.30
22	.41	4.0	.33	11	2.8	.73	4.6	.21	.46	28	.64	.21
23	.18	.65	.33	11	2.3	.73	3.9	.21	.41	16	.30	.16
24	.26	.24	.31	32	1.5	17	.40	.20	.47	.86	.28	.14
25	.40	.12	.34	20	1.5	1.9	.27	.17	.42	.86	.27	.10
26	.30	.05	.52	8.4	1.3	1.3	.27	.18	.38	18	.24	.09
27	.20	.05	.41	4.7	1.2	1.7	.26	.18	.35	4.0	.25	.09
28	.15	.04	.46	2.8	1.1	1.9	.24	.18	.33	103	.30	.09
29	.12	3.9	1.3	2.0	---	1.6	.27	.42	5.7	19	.30	.09
30	.10	4.1	.44	2.5	---	1.4	.29	56	1.2	26	.82	.08
31	.10	---	.22	3.9	---	1.3	---	35	---	8.5	1.2	---
TOTAL	5.76	65.08	290.88	653.59	368.8	65.40	23.85	178.37	830.26	262.19	31.69	97.87
MEAN	.19	2.17	9.38	21.1	13.2	2.11	.80	5.75	27.7	8.46	1.02	3.26
MAX	.41	16	258	171	75	17	4.6	72	354	103	9.4	24
MIN	.09	.01	.02	.11	1.1	.58	.24	.06	.33	.13	.15	.08
AC-FT	11	129	577	1300	732	130	47	354	1650	520	63	194
(††)	.63	4.56	3.86	7.30	3.08	1.13	1.00	2.78	7.61	4.16	1.82	4.40

CAL YR 1977 TOTAL 1699.32 MEAN 4.66 MAX 258 MIN .00 AC-FT 3370 †† 30.67
WTR YR 1978 TOTAL 2873.74 MEAN 7.87 MAX 354 MIN .01 AC-FT 5700 †† 42.33

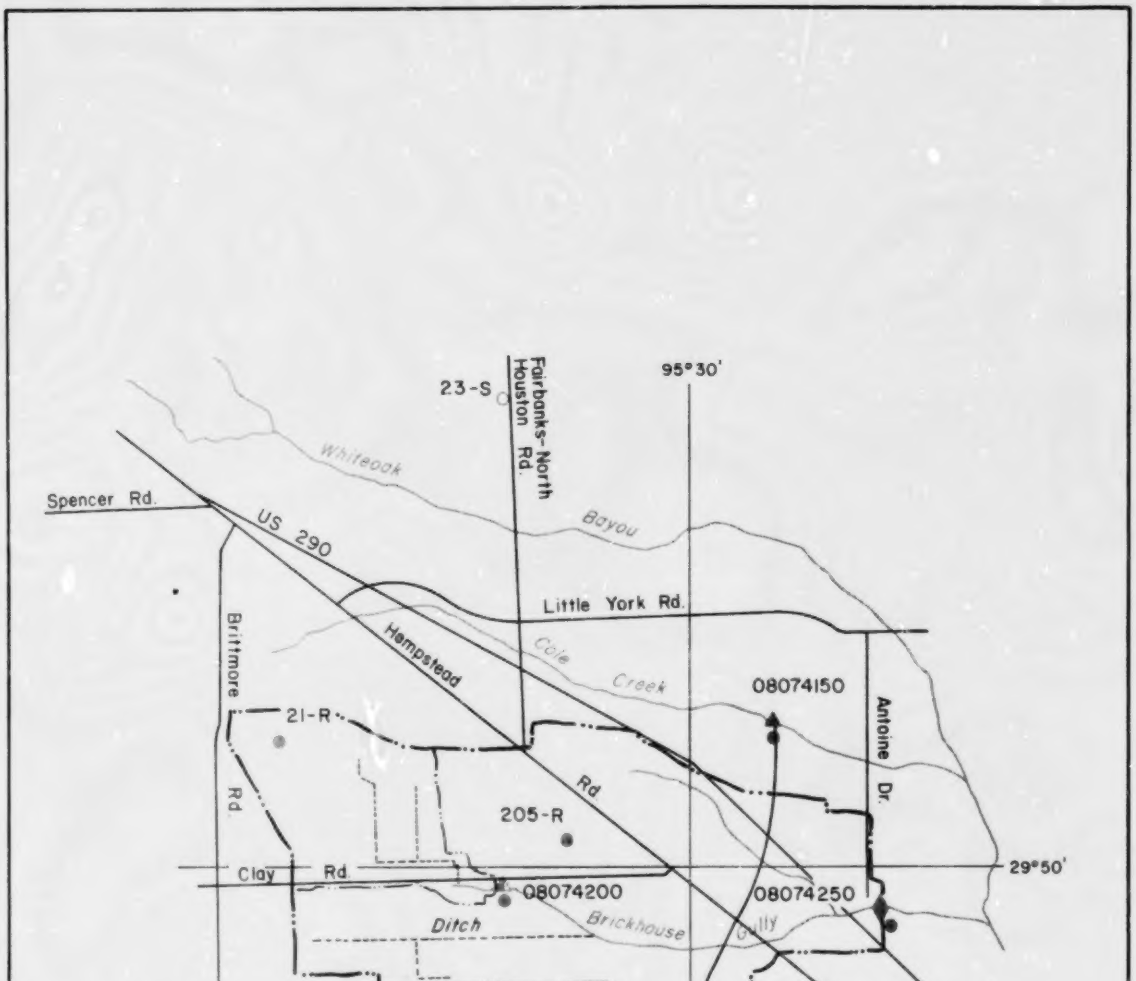
†† Weighted-mean rainfall, in inches, based on four rain gages.

BRICKHOUSE GULLY DRAINAGE BASIN

The location of data-collection sites in and near the Brickhouse Gully drainage basin are shown on figure 6.

Weighted-mean rainfall in the drainage basin based on five rain gages for the 1978 water year was 43.6 inches or 4.6 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storms of June 6-7 and July 28 were selected for analysis at station 08074200, Brickhouse Gully at Clarblak Street, and station 08074250, Brickhouse Gully at Costa Rica Street.



Base from Texas Department of Highways and Public Transportation General Highway Map

FIGURE 6.- Locations of data-collection sites in and near the Brickhouse Gully drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 3.--Storm rainfall-runoff data, 1978 water year, Brickhouse Gully

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brickhouse Gully at Clarblak Street (Drainage area--2.56 mi^2)								
June 6-7, 1978	12.0	6.72	0.84	1.56	2.76	1.98	0.29	278
July 28, 1978	1.2	0.82	0.96	1.56	1.80	0.49	0.60	223
Brickhouse Gully at Costa Rica St., Houston, TX (Drainage area--11.4 mi^2)								
June 6-7, 1978	12.5	6.30	0.84	1.56	2.76	3.45	0.55	3,180
July 28, 1978	1.0	1.94	1.04	1.80	2.52	0.94	0.48	2,300

08074200 Brickhouse Gully at Clarblak Street, Houston, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°49'53", long 95°31'42", Harris County, Hydrologic Unit 12040104 at bridge on Clarblak Street, in northwest Houston, and 4.0 miles upstream from station at Costa Rica Street.

DRAINAGE AREA.--2.56 mi^2. Drainage area, effective for period, April 1964 to current year. The boundary of the basin is poorly defined due to flat ground slopes.

PERIOD OF RECORD--April 1964 to July 6, 1976, Jan. 26, 1977 to current year.

GAGE.--Digital flood-hydrograph and rainfall rcorders and crest-stage gage. Prior to April 7, 1978, a flood-hydrograph rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 278 ft^3/s, June 6-7, 1978 (elevation 87.67 ft) after concrete lining of channel. Maximum discharge, 399 ft^3/s March 20, 1972 (elevation 94.28 ft) prior to concrete lining (July 1976).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft^3/s (revised) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Nov. 29	about 0845	202	86.49
June 6	1545	*278	*87.67
June 7	0230	*278	*87.67
July 22	1845	212	86.64
July 28	1630	223	86.81

Minimum discharge not determined.

STA. NO. 08074200 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRICKHOUSE GULLY AT CLARBLAK STREET, HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER 4200							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
JUNE 6										
0000	0.0							0.0	1.5	0.0028
0615	0.0							0.0	1.5	0.0054
0630	0.36							0.36	1.5	0.0061
0700	0.36							0.36	5.0	0.0084
0800	0.36							0.36	20.0	0.0205
0900	0.36							0.36	15.0	0.0375
1145	0.36							0.36	5.0	0.0421
1200	0.48							0.48	5.0	0.0428
1215	0.72							0.72	10.0	0.0504
1430	0.72							0.72	5.0	0.0542
1445	1.44							1.44	20.0	0.0572
1500	2.28							2.28	139.0	0.0782
1515	2.88							2.88	231.0	0.1132
1530	3.48							3.48	275.0	0.1548
1545	3.72							3.72	278.0	0.1969
1600	3.84							3.84	261.0	0.2364
1615	4.20							4.20	255.0	0.2750
1630	4.20							4.20	248.0	0.3125
1645	4.20							4.20	148.0	0.3409
1700	4.20							4.20	156.0	0.3645
1715	4.20							4.20	120.0	0.3827
1730	4.20							4.20	95.0	0.3971
1745	4.20							4.20	83.0	0.4096
1800	4.20							4.20	75.0	0.4210
1815	4.20							4.20	69.0	0.4314
1830	4.32							4.32	65.0	0.4413
1845	4.56							4.56	82.0	0.4537
1900	4.80							4.80	125.0	0.4726
1915	4.80							4.80	136.0	0.4932
1930	4.80							4.80	119.0	0.5112
1945	4.80							4.80	99.0	0.5262
2000	4.80							4.80	85.0	0.5390
2015	4.80							4.80	76.0	0.5505
2030	4.80							4.80	70.0	0.5611
2045	4.80							4.80	65.0	0.5710
2100	4.80							4.80	59.0	0.5799
2115	4.80							4.80	57.0	0.5885
2130	4.80							4.80	54.0	0.5967
2145	4.80							4.80	54.0	0.6049

STA. NO. 08074200 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRICKHOUSE GULLY AT CLARBLAK STREET, HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
	4200									
JUNE 6										
2200	4.80							4.80	48.0	0.6121
2215	4.80							4.80	45.0	0.6189
2230	4.80							4.80	43.0	0.6287
2300	4.80							4.80	42.0	0.6478
2400	4.80							4.80	40.0	0.6659
JUNE 7										
0000	4.80							4.80	40.0	0.6659
0100	4.80							4.80	40.0	0.6871
0115	5.04							5.04	40.0	0.6932
0130	5.16							5.16	43.0	0.6997
0145	5.40							5.40	74.0	0.7109
0200	5.88							5.88	184.0	0.7387
0215	6.24							6.24	263.0	0.7785
0230	6.48							6.48	278.0	0.8206
0245	6.60							6.60	275.0	0.8622
0300	6.60							6.60	268.0	0.9027
0315	6.72							6.72	260.0	0.9421
0330	6.72							6.72	248.0	0.9796
0345	6.72							6.72	233.0	1.0149
0400	6.72							6.72	213.0	1.0632
0430	6.72							6.72	170.0	1.1147
0500	6.72							6.72	136.0	1.1558
0530	6.72							6.72	112.0	1.1897
0600	6.72							6.72	98.0	1.2194
0630	6.72							6.72	90.0	1.2466
0700	6.72							6.72	85.0	1.2852
0800	6.72							6.72	77.0	1.3318
0900	6.72							6.72	70.0	1.3742
1000	6.72							6.72	64.0	1.4129
1100	6.72							6.72	59.0	1.4486
1200	6.72							6.72	56.0	1.4825
1300	6.72							6.72	54.0	1.5152
1400	6.72							6.72	48.0	1.5443
1500	6.72							6.72	44.0	1.5709
1600	6.72							6.72	42.0	1.5963
1700	6.72							6.72	39.0	1.6199
1800	6.72							6.72	36.0	1.6962
2400	6.72							6.72	26.0	1.7670
JUNE 8										
0000	6.72							6.72	26.0	1.7670
0600	6.72							6.72	18.0	1.8560

```
|=================================================================================================================|
| STA. NO.  08074200                                  STORM RAINFALL AND RUNOFF RECORD               1978 WATER YEAR |
|-----------------------------------------------------------------------------------------------------------------|
| BRICKHOUSE GULLY AT CLARBLAK STREET, HOUSTON, TEX.        STORM OF JUNE 6-7, 1978      | ACCUM.   | DISCHARGE| ACCUM.  |
|----------------------------------------------------------------------------------------|WEIGHTED |   IN     | RUNOFF  |
| DATE & TIME  |--------------------G A G E   N U M B E R----------------------------------| PRECIP. |          |         |
|              |   4200   |        |        |        |        |        |                  |   IN.    |  FT3/S   |   IN.   |
|=================================================================================================================|
|    JUNE 8    |          |        |        |        |        |        |                  |          |          |         |
|     1200     |   6.72   |        |        |        |        |        |                  |   6.72   |   13.0   | 1.9032  |
|     1800     |   6.72   |        |        |        |        |        |                  |   6.72   |    8.1   | 1.9326  |
|     2400     |   6.72   |        |        |        |        |        |                  |   6.72   |    4.8   | 1.9457  |
|    JUNE 9    |          |        |        |        |        |        |                  |          |          |         |
|     0000     |   6.72   |        |        |        |        |        |                  |   6.72   |    4.8   | 1.9457  |
|     0600     |   6.72   |        |        |        |        |        |                  |   6.72   |    3.2   | 1.9617  |
|     1200     |   6.72   |        |        |        |        |        |                  |   6.72   |    2.5   | 1.9708  |
|     1800     |   6.72   |        |        |        |        |        |                  |   6.72   |    2.0   | 1.9780  |
|     2400     |   6.72   |        |        |        |        |        |                  |   6.72   |    1.6   | 1.9809  |
|=================================================================================================================|
```

STA. NO. 08074200

STORM RAINFALL AND RUNOFF RECORD

1978 WATER YEAR

BRICKHOUSE GULLY AT CLARBLAK STREET, HOUSTON, TEX.

STORM OF JULY 28, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT3/S	ACCUM. RUNOFF IN.
	4200	21R								
JULY 28										
0000	0.0	0.0						0.0	1.5	0.0054
1200	0.0	0.0						0.0	1.5	0.0123
1500	0.0	0.0						0.0	1.5	0.0137
1515	0.60	0.0						0.18	15.0	0.0160
1530	1.56	0.12						0.55	57.0	0.0246
1545	1.56	0.30						0.68	112.0	0.0416
1600	1.80	0.33						0.77	147.0	0.0638
1615	1.80	0.40						0.82	214.0	0.0962
1630	1.80	0.40						0.82	223.0	0.1300
1645	1.80	0.40						0.82	211.0	0.1619
1700	1.80	0.40						0.82	184.0	0.1897
1715	1.80	0.40						0.82	150.0	0.2124
1730	1.80	0.40						0.82	109.0	0.2372
1800	1.80	0.40						0.82	79.0	0.2611
1830	1.80	0.40						0.82	58.0	0.2786
1900	1.80	0.40						0.82	53.0	0.3027
2000	1.80	0.40						0.82	45.0	0.3435
2200	1.80	0.40						0.82	32.0	0.3823
2400	1.80	0.40						0.82	23.0	0.4171
JULY 29										
0000	1.80	0.40						0.82	23.0	0.4171
0600	1.80	0.40						0.82	8.5	0.4688
1200	1.80	0.40						0.82	3.5	0.4816
1800	1.80	0.40						0.82	2.2	0.4895
2400	1.80	0.40						0.82	1.5	0.4923

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX

LOCATION.--Lat 29°49'40", long 95°28'09", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at Costa Rica Street in northwest Houston and 1.0 mi (1.6 km) upstream from Whiteoak Bayou.

DRAINAGE AREA.--11.4 mi^2 (29.5 km^2). Prior to Oct. 1, 1973, 11.6 mi^2 (30.0 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year.

REVISED RECORDS.--WDR TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Low-water concrete control since Dec. 9, 1970. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records good. Low flow is partially sustained by sewage effluent. No known diversion above station. Recording rain gage at station.

AVERAGE DISCHARGE.--14 years, 13.2 ft^3/s (0.374 m^3/s), 9,560 acre-ft/yr (11.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,800 ft^3/s (164 m^3/s) Mar. 20, 1972, elevation, 69.20 ft (21.092 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 850 ft^3/s (24.1 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Elevation (ft)	Elevation (m)
Dec. 13	0830	1,570	44.5	61.41	18.718	June 7	0330	*3,180	90.1	65.10	19.842
aJan. 16	1330	1,910	54.1	62.30	18.989	July 26	1815	1,190	33.7	60.28	18.373
aMay 30	1630	848	24.0	59.07	18.005	July 28	1615	2,300	65.1	63.23	19.273
aJune 6	1600	2,730	77.3	64.19	19.565	July 30	1500	1,090	30.9	59.97	18.279

a Water-quality samples were obtained during this flood event.

Minimum daily discharge, 0.92 ft^3/s (0.026 m^3/s) July 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	50	4.3	1.8	15	3.8	3.4	1.8	53	2.5	5.9	1.3
2	3.4	11	2.1	11	7.5	5.3	2.1	12	59	2.4	2.9	2.1
3	3.6	5.0	1.5	2.8	10	5.2	3.2	35	37	1.4	3.2	1.3
4	3.7	3.0	2.2	3.6	3.5	4.0	3.4	3.2	7.0	1.6	4.4	2.6
5	3.4	3.0	2.5	4.3	2.9	5.0	3.9	2.1	4.3	6.3	3.9	2.6
6	2.5	2.5	3.9	4.8	3.6	5.8	2.9	3.2	482	2.5	30	1.6
7	2.5	6.0	2.1	5.7	92	30	3.2	3.4	501	1.1	4.4	6.8
8	3.0	88	2.0	5.0	69	4.4	3.7	4.8	38	.98	3.4	2.1
9	2.5	6.9	2.5	4.6	16	3.5	3.7	3.9	13	.92	3.9	3.2
10	3.0	3.2	2.5	6.1	7.7	3.0	7.2	3.4	5.5	1.4	1.8	78
11	4.0	2.7	.95	105	5.4	2.9	7.7	3.4	3.9	1.6	1.3	31
12	3.5	1.6	1.5	26	117	2.8	8.9	3.7	3.4	2.2	3.7	11
13	3.0	2.3	320	7.9	42	3.9	4.2	2.9	4.5	1.6	2.3	64
14	3.0	2.9	28	5.1	18	3.0	3.9	2.3	5.3	1.2	2.6	15
15	3.0	14	9.2	4.2	13	3.1	4.2	3.2	3.7	1.3	2.6	4.8
16	3.0	3.6	4.1	339	9.3	5.5	4.2	2.3	2.5	1.3	2.3	2.1
17	2.5	7.7	2.8	43	64	2.4	4.2	3.7	2.4	1.6	2.1	1.8
18	2.3	2.2	1.9	162	20	2.8	3.7	4.4	4.8	1.6	1.6	1.6
19	2.1	2.1	2.1	170	8.5	4.0	3.9	3.7	5.2	7.2	1.8	1.6
20	2.0	1.9	2.3	26	5.9	4.0	3.9	22	2.6	2.6	2.3	3.7
21	3.0	51	2.2	21	5.7	4.2	3.7	2.6	5.7	2.9	1.8	3.2
22	10	3.7	3.7	16	7.3	4.3	8.9	1.6	2.5	47	2.6	2.9
23	5.0	2.7	2.5	24	6.7	4.7	6.3	2.9	1.8	19	1.6	1.8
24	7.0	4.0	1.9	38	6.3	17	1.8	4.4	1.6	9.5	1.6	1.1
25	5.0	3.2	2.0	24	7.5	4.8	1.8	5.2	1.5	5.9	1.1	1.4
26	3.5	3.4	3.2	9.5	6.9	3.9	3.4	1.8	1.5	73	1.1	3.2
27	3.0	3.2	2.0	6.2	6.8	5.5	3.7	2.1	2.0	9.5	1.6	1.6
28	3.0	3.8	3.3	4.4	6.2	5.2	3.9	1.3	1.3	249	2.6	2.1
29	2.5	18	13	4.2	---	3.9	3.2	17	37	18	1.6	2.9
30	2.5	15	3.4	6.9	---	3.4	2.9	99	5.1	140	11	3.2
31	2.5	---	2.5	12	---	4.8	---	11	---	22	1.8	---
TOTAL	106.2	327.6	438.15	1104.1	583.7	166.1	125.1	273.3	1298.1	639.10	114.8	261.6
MEAN	3.43	10.9	14.1	35.6	20.8	5.36	4.17	8.82	43.3	20.6	3.70	8.72
MAX	10	88	320	339	117	30	8.9	99	501	249	30	78
MIN	2.0	1.6	.95	1.8	2.9	2.4	1.8	1.3	1.3	.92	1.1	1.1
AC-FT	211	650	869	2190	1160	329	248	542	2570	1270	228	519
(††)	.45	4.78	3.60	7.22	3.32	.96	.90	2.78	8.71	5.61	1.56	3.66

CAL YR 1977 TOTAL 3560.56 MEAN 9.75 MAX 320 MIN .65 AC-FT 7060 †† 33.62
WTR YR 1978 TOTAL 5437.85 MEAN 14.9 MAX 501 MIN .92 AC-FT 10790 †† 43.55

†† Weighted-mean rainfall, in inches, based on five rain gages.

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
DEC										
06...	1030	3.9	1010	8.2	10.0	20	10	12.1	111	--
JAN										
16...	1335	1790	110	8.2	15.5	180	250	9.8	101	5.7
16...	1500	1170	106	8.0	15.5	180	220	10.0	103	5.6
16...	1615	687	115	7.7	15.5	200	200	9.7	100	5.4
17...	1000	39	187	7.8	6.5	260	150	12.0	1	4.8
MAY										
02...	1210	3.9	873	8.1	24.5	10	20	16.6	202	5.0
30...	1800	396	140	6.7	26.5	120	300	7.2	91	19
30...	1910	165	186	6.6	26.5	90	180	6.8	86	48
31...	1335	7.2	716	6.8	32.0	60	40	3.6	49	28
JUN										
06...	1545	2710	138	7.4	25.5	200	350	6.6	82	12
JUL										
10...	1330	1.8	862	8.2	33.0	20	10	15.4	214	5.1
AUG										
02...	1120	2.9	621	8.6	31.0	50	6	17.5	236	5.8

DATE	COLIFOHM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
DEC										
06...	120000	6700	900	--	--	--	--	--	--	--
JAN										
16...	300000	51000	29000	39	0	13	1.7	6.3	.4	1.9
16...	220000	40000	28000	--	--	--	--	--	--	--
16...	170000	30000	24000	--	--	--	--	--	--	--
17...	240000	29000	9100	--	--	--	--	--	--	--
MAY										
02...	140000	25000	2000	240	0	71	16	97	2.7	1.5
30...	1300000	560000	9900	42	0	14	1.7	8.8	.6	2.7
30...	1600000	290000	14000	--	--	--	--	--	--	--
31...	1900000	780000	16000	150	0	47	7.9	79	2.8	6.4
JUN										
06...	420000	140000	6800	--	--	--	--	--	--	--
JUL										
10...	11000	3200	200	150	15	32	16	100	3.6	2.1
AUG										
02...	1100000	220000	620	170	0	49	11	73	2.5	2.9

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
DEC										
06...	--	--	--	--	--	--	--	20	7	.16
JAN										
16...	56	0	7.6	5.6	.1	4.1	68	796	96	.25
16...	--	--	--	--	--	--	--	640	68	.21
16...	--	--	--	--	--	--	--	484	64	.24
17...	--	--	--	--	--	--	--	324	60	.17
MAY										
02...	360	0	15	91	.5	20	489	14	13	.01
30...	57	0	7.7	7.6	.1	2.5	74	1180	124	.76
30...	--	--	--	--	--	--	--	516	72	.82
31...	260	4	21	89	.4	12	396	42	14	.05
JUN										
06...	--	--	--	--	--	--	--	1610	176	.15
JUL										
10...	160	0	13	150	.4	11	404	26	23	.02
AUG										
02...	210	14	--	69	.4	16	--	14	14	.02

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DEC									
06...	.02	.18	.10	.64	.74	.20	7.7	--	.30
JAN									
16...	.01	.26	.03	1.2	1.2	.37	18	--	.00
16...	.01	.22	.08	1.4	1.5	.39	16	--	.00
16...	.01	.25	.06	1.1	1.2	.35	15	--	.00
17...	.01	.18	.09	.84	.93	.23	14	--	.00
MAY									
02...	.01	.02	.04	.61	.65	.14	6.4	--	.20
30...	.09	.85	.24	2.0	2.2	.58	15	5	.80
30...	.05	.87	.04	2.2	2.2	.68	15	6	.20
31...	.04	.09	9.0	3.0	12	2.5	18	12	1.0
JUN									
06...	.02	.17	.11	2.0	2.1	.46	26	--	.00
JUL									
10...	.00	.02	.01	3.4	3.4	.13	6.3	4	.00
AUG									
02...	.01	.03	.55	.65	1.2	.61	7.8	8	.90

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
MAY							
30...	1750	54	300	1	0	4	80
31...	1335	30	300	0	10	4	70
JUL							
10...	1330	4	600	0	0	4	20
AUG							
02...	1120	17	--	0	0	4	30

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
MAY						
30...	4	10	.0	0	0	10
31...	2	30	.0	0	0	20
JUL						
10...	0	0	.0	1	0	10
AUG						
02...	0	0	.0	0	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
MAY									
30...	1750	.4	.00	.00	.7	.12	.00	.00	1.1
31...	1335	.4	.00	.00	.0	.00	.00	.00	.39
JUL									
10...	1330	.0	.00	.00	.0	.00	.00	.00	.04
AUG									
02...	1120	.0	.00	.00	.0	.00	.00	.00	.29

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
MAY									
30...	.17	.00	.00	.00	.00	.00	.00	.00	.00
31...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL									
10...	.00	.00	.00	.00	.00	.00	.00	.00	.00
AUG									
02...	.00	.00	.00	.00	.00	.00	.01	.00	.00

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY								
30...	.00	.00	.00	0	.00	.00	.00	.00
31...	.00	.00	.00	0	.00	.00	.00	.00
JUL								
10...	.00	.00	.00	0	.00	.05	.00	.00

STA. NO. 08074250 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRICKHOUSE GULLY AT COSTA RICA ST. HOUSTON, TEX. STORM OF JUNE 6-7. 1978

DATE & TIME	GAGE NUMBER 4250	4200	4150	2058				ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
JUNE 6										
0000	0.0	0.0	0.0	0.0				0.0	4.4	0.0018
0600	0.0	0.0	0.0	0.0				0.0	4.4	0.0037
0615	0.0	0.0	0.0	0.10				0.03	4.4	0.0038
0630	0.0	0.36	0.0	0.20				0.24	4.4	0.0042
0730	0.0	0.36	0.0	0.20				0.24	4.4	0.0046
0800	0.0	0.36	0.0	0.20				0.24	4.4	0.0049
0830	0.0	0.36	0.0	0.20				0.24	29.0	0.0079
0930	0.0	0.36	0.0	0.20				0.24	25.0	0.0130
1130	0.0	0.36	0.0	0.20				0.24	18.0	0.0157
1145	0.0	0.36	0.0	0.30				0.27	18.0	0.0164
1200	0.0	0.48	0.0	0.58				0.41	18.0	0.0170
1215	0.03	0.72	0.0	0.58				0.54	18.0	0.0176
1230	0.03	0.72	0.0	0.58				0.54	14.0	0.0182
1245	0.03	0.72	0.09	0.58				0.54	14.0	0.0188
1300	0.03	0.72	0.09	0.60				0.55	31.0	0.0199
1315	0.10	0.72	0.09	0.60				0.56	71.0	0.0247
1400	0.10	0.72	0.11	0.60				0.56	86.0	0.0305
1415	0.40	0.72	0.11	0.60				0.61	87.0	0.0335
1430	0.70	0.72	0.11	1.18				0.82	430.0	0.0481
1445	1.16	1.44	0.11	1.87				1.46	684.0	0.0713
1500	1.20	2.28	0.11	2.34				2.03	723.0	0.0959
1515	1.20	2.88	0.65	2.94				2.53	995.0	0.1297
1530	1.70	3.48	1.08	3.31				3.04	2060.0	0.1997
1545	2.04	3.72	1.33	3.44				3.26	2690.0	0.2911
1600	2.10	3.84	1.70	3.71				3.43	2730.0	0.3839
1615	2.16	4.20	1.86	3.82				3.66	2730.0	0.4767
1630	2.16	4.20	1.90	3.84				3.67	2530.0	0.6056
1700	2.16	4.20	2.08	3.84				3.68	2080.0	0.8177
1800	2.18	4.20	2.08	3.84				3.68	1070.0	0.9086
1815	2.18	4.20	2.08	3.84				3.68	925.0	0.9400
1830	2.18	4.32	2.08	3.85				3.75	805.0	0.9674
1845	2.18	4.56	2.08	4.28				3.99	707.0	0.9914
1900	2.18	4.80	2.09	4.53				4.19	721.0	1.0159
1915	2.80	4.80	2.09	4.58				4.30	1350.0	1.0618
1930	3.18	4.80	2.10	4.58				4.36	1920.0	1.1270
1945	3.20	4.80	2.70	4.58				4.39	1890.0	1.1913
2000	3.22	4.80	3.04	4.58				4.41	1680.0	1.3340
2100	3.26	4.80	3.12	4.58				4.42	900.0	1.4563
2200	3.26	4.80	3.13	4.58				4.42	539.0	1.5662

STA. NO. 08074250 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRICKHOUSE GULLY AT COSTA RICA ST. HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
	4250	4200	4150	2058						
JUNE 6										
2400	3.26	4.80	3.13	4.58				4.42	273.0	1.6103
JUNE 7										
0000	3.26	4.80	3.13	4.58				4.42	273.0	1.6103
0045	3.26	4.80	3.13	4.58				4.42	260.0	1.6349
0100	3.26	4.80	3.13	4.58				4.42	224.0	1.6425
0115	3.28	5.04	3.13	4.82				4.61	213.0	1.6498
0130	3.31	5.16	3.13	4.88				4.70	205.0	1.6567
0145	3.31	5.40	3.13	5.03				4.86	203.0	1.6636
0200	3.31	5.88	3.13	5.10				5.12	208.0	1.6707
0215	3.49	6.24	3.13	5.78				5.53	299.0	1.6808
0230	4.06	6.48	3.15	6.06				5.82	966.0	1.7137
0245	4.49	6.60	3.23	6.23				6.00	2320.0	1.7925
0300	4.61	6.60	3.95	6.33				6.09	2940.0	1.8924
0315	4.76	6.72	4.43	6.40				6.22	3140.0	1.9991
0330	4.91	6.72	4.65	6.43				6.26	3180.0	2.1072
0345	4.92	6.72	4.79	6.44				6.27	2890.0	2.2054
0400	4.94	6.72	4.93	6.44				6.28	2690.0	2.2968
0415	4.94	6.72	4.98	6.44				6.28	2360.0	2.3770
0430	4.95	6.72	5.00	6.45				6.29	2080.0	2.4830
0500	4.96	6.72	5.01	6.45				6.29	1560.0	2.6421
0600	4.98	6.72	5.02	6.45				6.29	923.0	2.8930
0900	5.02	6.72	5.03	6.45				6.30	350.0	3.0357
1200	5.04	6.72	5.03	6.45				6.30	210.0	3.1642
1800	5.04	6.72	5.03	6.45				6.30	107.0	3.2514
2400	5.04	6.72	5.03	6.45				6.30	65.0	3.2912
JUNE 8										
0000	5.04	6.72	5.03	6.45				6.30	65.0	3.2912
0600	5.04	6.72	5.03	6.45				6.30	47.0	3.3428
1200	5.04	6.72	5.03	6.45				6.30	36.0	3.3721
1800	5.04	6.72	5.03	6.45				6.30	29.0	3.3950
2400	5.04	6.72	5.03	6.45				6.30	20.0	3.4072
JUNE 9										
0000	5.04	6.72	5.03	6.45				6.30	20.0	3.4072
0600	5.04	6.72	5.03	6.45				6.30	15.0	3.4235
1200	5.04	6.72	5.03	6.45				6.30	12.0	3.4333
1800	5.04	6.72	5.03	6.45				6.30	11.0	3.4423
2400	5.04	6.72	5.03	6.45				6.30	10.0	3.4463

STA. NO. 08074250

STORM RAINFALL AND RUNOFF RECORD

1978 WATER YEAR

BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TEX. STORM OF JULY 28, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
	4250	4200	4150	205R	21R					
JULY 28										
0000	0.0	0.0	0.0	0.0	0.0			0.0	5.2	0.0050
1415	0.0	0.0	0.0	0.0	0.0			0.0	4.2	0.0092
1430	0.0	0.0	0.0	0.0	0.0			0.0	4.2	0.0093
1445	0.0	0.0	0.0	0.0	0.0			0.0	54.0	0.0112
1500	0.36	0.0	0.11	0.08	0.0			0.09	114.0	0.0150
1515	0.62	0.60	0.75	0.98	0.0			0.62	368.0	0.0275
1530	0.84	1.56	1.32	1.88	0.12			1.27	834.0	0.0559
1545	1.88	1.56	2.22	2.22	0.30			1.64	1700.0	0.1136
1600	2.18	1.80	2.63	2.38	0.33			1.84	2190.0	0.1881
1615	2.33	1.80	2.68	2.48	0.40			1.91	2300.0	0.2662
1630	2.35	1.80	2.69	2.52	0.40			1.92	2160.0	0.3396
1645	2.36	1.80	2.71	2.54	0.40			1.93	1980.0	0.4069
1700	2.37	1.80	2.73	2.56	0.40			1.94	1770.0	0.5573
1800	2.37	1.80	2.73	2.56	0.40			1.94	930.0	0.7469
2000	2.37	1.80	2.73	2.56	0.40			1.94	258.0	0.8521
2400	2.37	1.80	2.73	2.56	0.40			1.94	65.0	0.8830
JULY 29										
0000	2.37	1.80	2.73	2.56	0.40			1.94	65.0	0.8830
0600	2.37	1.80	2.73	2.56	0.40			1.94	26.0	0.9175
1200	2.37	1.80	2.73	2.56	0.40			1.94	13.0	0.9281
1800	2.37	1.80	2.73	2.56	0.40			1.94	8.3	0.9349
2400	2.37	1.80	2.73	2.56	0.40			1.94	5.9	0.9373

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 4.--Storm rainfall-runoff data, 1978 water year, Whiteoak Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Whiteoak Bayou at Houston, TX (Drainage area--86.3 mi^2)								
June 6-7, 1978	13	4.78	0.84	1.56	2.76	2.15	0.45	8,290

SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°46'30", long 95°23'49", Harris County, Hydrologic Unit 12040104, at downstream side of downstream bridge on Heights Boulevard in Houston, 560 ft (171 m) downstream from Texas and New Orleans Railroad Co. bridge, 2.4 mi (3.9 km) upstream from Little Whiteoak Baycu, and 4.0 mi (6.4 km) upstream from mouth.

DRAINAGE AREA.--86.3 mi^2 (223.5 km^2). Prior to Oct. 1, 1976, 84.7 mi^2 (219.4 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to current year (October 1965 to September 1966, monthly discharge only).

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 7.35 ft (2.240 m) below National Geodetic Vertical Datum of 1929; unadjusted for land-surface subsidence. Prior to June 17, 1936, nonrecording gage, and June 17, 1936, to Apr. 28, 1965, water-stage recorder at site 480 ft (146 m) upstream at same datum.

REMARKS.--Water-discharge records fair. Low flow is partly sustained by industrial waste. No diversion above station

AVERAGE DISCHARGE.--42 years, 76.8 ft^3/s (2.175 m^3/s), 55,640 acre-ft/yr (68.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,300 ft^3/s (490 m^3/s) Mar. 20, 1972, gage height, 43.50 ft (13.259 m); maximum gage height, 43.60 ft (13.289 m) Nov. 13, 1961; no flow for many days during 1965 water year (result of construction dams).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1919, 51.5 ft (15.70 m) Dec. 9, 1935, prior to channel rectification, present site and datum, discharge 14,750 ft^3/s (418 m^3/s), furnished by the engineer for Harris County. The flood of May 31, 1929, reached a stage of 47.0 ± 0.5 ft (14.33 ± 0.15 m), prior to channel rectification, present site and datum, discharge 9,360 ft^3/s (265 m^3/s), computed on basis of current-meter measurement at stage 1.0 ft (0.30 m) below crest, furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft^3/s (70.8 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 13	1300	4,350	123	27.17	8.281	June 7	0530	*8,290	235	32.86	10.016
aJan. 16	1500	5,000	142	28.20	8.595	July 28	1730	4,700	133	27.73	8.452
aMay 26	1400	994	28.2	20.43	6.227	aAug. 22	1630	127	3.60	17.36	5.291
aJune 6	1730	4,920	139	28.08	8.559	aAug. 30	1600	279	7.90	18.06	5.505

a Water-quality samples were obtained during this flood event.

Minimum daily discharge, 14 ft^3/s (0.40 m^3/s) July 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	257	46	26	143	31	38	23	239	30	40	67
2	58	131	24	79	72	32	33	28	342	37	31	66
3	42	34	19	29	63	60	32	210	285	29	22	26
4	28	22	19	23	40	36	29	29	98	26	20	37
5	27	19	19	22	33	34	27	20	43	168	22	45
6	25	19	20	21	32	35	27	19	1450	104	95	20
7	28	18	17	31	317	245	25	20	2920	26	70	85
8	27	387	16	80	608	96	23	27	375	24	27	46
9	36	128	19	30	184	45	23	28	129	23	21	58
10	32	35	18	22	130	37	40	22	54	22	20	293
11	40	24	17	367	84	33	42	21	37	21	18	414
12	28	20	18	332	501	29	57	20	33	24	131	164
13	28	20	1320	72	349	37	39	21	36	19	103	314
14	25	21	214	33	139	31	27	19	40	18	27	350
15	24	62	58	26	101	29	23	19	37	18	31	99
16	26	29	31	1440	92	34	23	20	33	16	21	35
17	27	50	24	483	327	29	24	21	30	16	20	20
18	24	25	24	637	159	30	22	20	37	14	19	17
19	22	20	21	1250	79	33	21	19	39	19	19	25
20	20	19	18	273	55	45	19	71	26	65	21	40
21	24	332	17	159	47	42	28	33	29	67	26	37
22	55	64	17	155	41	40	38	24	28	118	43	22
23	29	26	18	153	40	47	61	25	27	130	20	21
24	45	25	19	273	39	116	19	24	29	41	18	20
25	26	20	20	192	36	35	18	29	28	73	19	21
26	22	17	21	114	34	35	18	126	27	255	24	17
27	22	17	21	64	34	39	19	28	30	76	25	16
28	20	19	29	45	33	41	21	21	32	878	27	15
29	21	159	95	40	---	40	25	105	179	193	26	16
30	22	163	31	51	---	40	21	443	52	265	64	17
31	20	---	22	83	---	39	---	165	---	131	25	---
TOTAL	915	2182	2272	6605	3812	1495	862	1699	6744	2946	1095	2423
MEAN	29.5	72.7	73.3	213	136	48.2	28.7	54.8	225	95.0	35.3	80.8
MAX	58	387	1320	1440	608	245	61	443	2920	878	131	414
MIN	20	17	16	21	32	29	18	18	26	14	18	15
AC-FT	1810	4330	4510	13100	7560	2970	1710	3370	13380	5840	2170	4810
(††)	.56	4.60	3.10	7.42	3.16	1.26	.92	2.84	6.87	4.15	1.80	4.39

CAL YR 1977 TOTAL 27407 MEAN 75.1 MAX 1890 MIN 16 AC-FT 54360 †† 32.69
WTR YR 1978 TOTAL 33050 MEAN 90.5 MAX 2920 MIN 14 AC-FT 65550 †† 41.07

†† Weighted-mean rainfall, in inches, based on six rain gages.

SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
DEC										
06...	1140	19	1140	8.3	16.0	20	30	9.4	98	--
JAN										
17...	1100	413	196	7.8	9.0	160	150	11.3	101	12
APR										
25...	0850	18	1110	7.5	23.0	20	20	7.7	92	23
MAY										
26...	1430	762	253	7.9	26.0	60	200	12.4	155	19
JUN										
05...	0945	42	742	6.5	27.0	60	40	6.6	84	23
06...	1725	4870	170	6.8	27.0	220	300	6.1	77	19
JUL										
11...	0850	21	1030	7.2	28.5	40	20	7.2	94	29
AUG										
02...	0910	31	832	7.2	28.0	50	20	6.8	87	32
23...	1045	15	965	7.4	26.0	50	20	5.1	64	29
30...	1700	224	375	7.4	27.0	120	120	3.9	50	40
SEP										
25...	0840	20	939	7.5	23.5	30	10	5.1	61	25

DATE	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
DEC										
06...	2000000	1000000	13000	--	--	--	--	--	--	--
JAN										
17...	1100000	71000	12000	--	--	--	--	--	--	--
APR										
25...	1400000	180000	4900	230	0	67	15	140	4.0	7.5
MAY										
26...	1100000	48000	85000	78	0	27	2.6	14	.7	3.9
JUN										
05...	150000	10000	550	180	0	53	11	81	2.6	6.5
06...	810000	240000	79000	--	--	--	--	--	--	--
JUL										
11...	39000	3400	30	210	0	60	14	130	3.9	8.2
AUG										
02...	900000	38000	720	190	0	55	12	93	3.0	7.5
23...	1100000	79000	2500	--	--	--	--	--	--	--
30...	2000000	140000	36000	--	--	--	--	--	--	--
SEP										
25...	1100000	50000	3100	--	--	--	--	--	--	--

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
DEC 06...	--	--	--	--	--	--	--	70	36	.96
JAN 17...	--	--	--	--	--	--	--	336	52	.20
APR 25...	380	0	32	150	.5	22	621	22	21	.40
MAY 26...	96	0	15	18	.1	4.0	132	820	204	.78
JUN 05...	280	0	27	75	.5	20	413	62	22	1.1
06...	--	--	--	--	--	--	--	980	120	.19
JUL 11...	350	0	25	130	.4	16	557	25	17	.40
AUG 02...	290	0	22	85	.4	21	439	36	11	.91
23...	--	--	--	--	--	--	--	21	17	.11
30...	--	--	--	--	--	--	--	400	92	1.3
SEP 25...	--	--	--	--	--	--	--	17	12	1.3

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
DEC 06...	.74	1.7	6.9	2.6	9.5	7.4	20	--	.30
JAN 17...	.03	.23	.68	1.2	1.9	.63	17	--	.00
APR 25...	.48	.88	6.7	.90	7.6	7.0	14	--	1.6
MAY 26...	.08	.86	.65	2.4	3.0	1.1	30	4	.30
JUN 05...	.08	1.2	4.1	7.9	12	.00	12	2	.20
06...	.03	.22	.24	2.0	2.2	.54	24	--	.00
JUL 11...	.48	.88	3.3	6.0	9.3	8.2	11	7	.60
AUG 02...	.59	1.5	4.9	2.2	7.1	9.0	16	8	.80
23...	.02	.13	3.1	3.5	6.6	6.0	15	9	1.3
30...	.12	1.4	1.3	3.7	5.0	1.9	45	22	.30
SEP 25...	.77	2.1	6.1	2.3	8.4	6.0	14	--	2.2

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY 26...	1430	6	200	1	10	5	260
JUN 05...	0945	32	400	1	10	3	30
JUL 11...	0850	19	500	0	0	4	30
AUG 02...	0910	16	200	0	0	2	40
23...	1045	140	200	1	0	2	80

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY 26...	12	60	.1	0	0	20
JUN 05...	6	40	.1	0	0	10
JUL 11...	0	10	.0	1	0	10
AUG 02...	0	0	.0	1	0	20
23...	0	10	.0	0	0	20

SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
MAY 26...	1430	--	.00	.00	1.1	.00	.00	.00	.62
JUN 05...	0945	.0	.00	.00	.1	.00	.00	.00	.14
JUL 11...	0850	.0	.00	.00	.0	.00	.00	.00	1.1
AUG 02...	0910	.0	.00	.02	.0	.00	.00	.00	.70
23...	1045	.0	.00	.00	.0	.00	.00	.00	.84

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
MAY 26...	.05	.00	.00	.00	.00	.02	.01	.00	.00
JUN 05...	.01	.00	.00	.00	.00	.00	.01	.01	.00
JUL 11...	.00	.00	.00	.00	.00	.00	.04	.08	.00
AUG 02...	.00	.00	.00	.00	.00	.00	.05	.09	.00
23...	.01	--	.00	.00	.03	.00	.04	.12	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY 26...	.00	.00	.00	0	.00	.00	.00	.02
JUN 05...	.00	.00	.00	0	.00	--	--	--
JUL 11...	.00	.00	.00	0	.00	--	--	--
AUG 02...	.00	.00	.00	0	.00	.04	.08	.00
23...	.00	.00	.00	0	.00	.05	.01	.00

STA. NO. 08074500 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

WHITE OAK BAYOU AT HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
	4250	4200	4150	205R	204R	29R	22R			
JUNE 6										
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	0.0015
0400	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	0.0033
0500	0.0	0.0	0.0	0.0	0.0	0.0	0.64	0.10	41.0	0.0038
0515	0.0	0.0	0.0	0.0	0.0	0.0	0.68	0.10	42.0	0.0040
0530	0.0	0.0	0.0	0.0	0.0	0.04	0.74	0.12	42.0	0.0042
0545	0.0	0.0	0.0	0.0	0.0	0.04	0.78	0.12	42.0	0.0043
0600	0.0	0.0	0.0	0.0	0.0	0.14	0.85	0.15	53.0	0.0046
0615	0.0	0.0	0.0	0.0	0.0	0.28	0.85	0.17	65.0	0.0049
0630	0.0	0.36	0.0	0.20	0.0	0.33	0.85	0.22	63.0	0.0052
0645	0.0	0.36	0.0	0.20	0.0	0.34	0.85	0.22	62.0	0.0054
0700	0.0	0.36	0.0	0.20	0.04	0.34	0.85	0.23	61.0	0.0061
0800	0.0	0.36	0.0	0.20	0.04	0.34	0.85	0.23	53.0	0.0071
0900	0.0	0.36	0.0	0.20	0.04	0.34	0.85	0.23	67.0	0.0083
1000	0.0	0.36	0.0	0.20	0.04	0.34	0.85	0.23	53.0	0.0092
1100	0.0	0.36	0.0	0.20	0.04	0.34	0.85	0.23	70.0	0.0102
1130	0.0	0.36	0.0	0.20	0.04	0.34	0.85	0.23	82.0	0.0107
1145	0.0	0.36	0.0	0.30	0.04	0.34	0.85	0.24	80.0	0.0111
1200	0.0	0.48	0.0	0.58	0.04	0.34	0.85	0.29	78.0	0.0114
1215	0.03	0.72	0.0	0.58	0.04	0.34	0.85	0.31	76.0	0.0118
1230	0.03	0.72	0.0	0.58	0.04	0.34	0.85	0.31	97.0	0.0122
1245	0.03	0.72	0.09	0.58	0.04	0.34	0.85	0.32	237.0	0.0133
1300	0.03	0.72	0.09	0.60	0.04	0.34	0.85	0.32	451.0	0.0153
1315	0.10	0.72	0.09	0.60	0.04	0.34	0.85	0.34	652.0	0.0182
1330	0.10	0.72	0.09	0.60	0.27	0.34	0.85	0.38	873.0	0.0221
1345	0.10	0.72	0.10	0.60	0.27	0.70	0.86	0.43	1120.0	0.0272
1400	0.10	0.72	0.11	0.60	0.27	0.71	0.87	0.44	1400.0	0.0334
1415	0.40	0.72	0.11	0.60	0.27	0.71	0.87	0.51	1690.0	0.0410
1430	0.70	0.72	0.11	1.18	0.27	0.71	0.87	0.67	2000.0	0.0500
1445	1.16	1.44	0.11	1.87	0.54	0.71	0.97	0.98	1920.0	0.0586
1500	1.20	2.28	0.11	2.34	0.72	0.71	1.11	1.15	1840.0	0.0669
1515	1.20	2.88	0.65	2.94	0.95	0.73	1.11	1.37	1820.0	0.0751
1530	1.70	3.48	1.08	3.31	1.24	0.76	1.11	1.67	1940.0	0.0838
1545	2.04	3.72	1.33	3.44	1.29	0.76	1.11	1.82	2180.0	0.0936
1600	2.10	3.84	1.70	3.71	1.30	0.78	1.11	1.92	2440.0	0.1045
1615	2.16	4.20	1.86	3.82	1.32	0.78	1.11	1.99	3160.0	0.1187
1630	2.16	4.20	1.90	3.84	1.32	0.78	1.11	1.99	3960.0	0.1365
1645	2.16	4.20	2.08	3.84	1.32	0.78	1.12	2.01	4360.0	0.1560
1700	2.16	4.20	2.08	3.84	1.32	0.78	1.13	2.02	4790.0	0.1775
1715	2.16	4.20	2.08	3.84	1.32	0.78	1.16	2.02	4870.0	0.1994

STA. NO. 08074500 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

WHITE OAK BAYOU AT HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER 4250	4200	4150	205R	204R	29R	22R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
JUNE 6										
1730	2.17	4.20	2.08	3.84	1.32	0.78	1.19	2.03	4920.0	0.2215
1745	2.17	4.20	2.08	3.84	1.32	0.78	1.23	2.03	4800.0	0.2430
1800	2.19	4.20	2.08	3.84	1.32	0.78	1.27	2.04	4680.0	0.2640
1815	2.18	4.20	2.08	3.84	1.32	0.88	1.27	2.06	4470.0	0.2841
1830	2.19	4.32	2.08	3.84	1.34	1.09	1.27	2.09	4260.0	0.3032
1845	2.18	4.56	2.08	4.28	1.54	1.23	1.27	2.23	3990.0	0.3211
1900	2.19	4.80	2.09	4.53	1.63	1.24	1.27	2.24	3730.0	0.3379
1915	2.20	4.80	2.09	4.58	2.04	1.24	1.27	2.52	3440.0	0.3533
1930	3.18	4.80	2.10	4.58	2.37	1.24	1.27	2.67	3160.0	0.3675
1945	3.20	4.80	2.70	4.58	2.40	1.24	1.27	2.74	2870.0	0.3804
2000	3.22	4.80	3.04	4.58	2.40	1.24	1.27	2.78	2910.0	0.4000
2030	3.24	4.80	3.08	4.58	2.40	1.24	1.27	2.78	3770.0	0.4338
2100	3.26	4.80	3.12	4.58	2.40	1.24	1.27	2.79	4230.0	0.4718
2130	3.26	4.80	3.12	4.58	2.40	1.24	1.27	2.79	4020.0	0.5079
2200	3.26	4.80	3.13	4.58	2.40	1.24	1.27	2.79	3600.0	0.5887
2400	3.26	4.80	3.13	4.58	2.40	1.24	1.61	2.85	2010.0	0.6271
JUNE 7										
0000	3.26	4.80	3.13	4.58	2.40	1.24	1.61	2.85	2010.0	0.6271
0015	3.26	4.80	3.13	4.58	2.40	1.26	1.70	2.86	1920.0	0.6379
0030	3.26	4.80	3.13	4.58	2.40	1.26	1.85	2.88	1840.0	0.6462
0045	3.26	4.80	3.13	4.58	2.40	1.38	2.00	2.92	1760.0	0.6541
0100	3.26	4.80	3.13	4.58	2.40	1.47	2.11	2.95	1690.0	0.6617
0115	3.29	5.04	3.13	4.82	2.40	1.83	2.30	3.08	1620.0	0.6689
0130	3.31	5.16	3.13	4.88	2.65	2.02	2.50	3.21	1560.0	0.6760
0145	3.31	5.40	3.13	5.03	2.85	2.04	2.55	3.28	1500.0	0.6827
0200	3.31	5.88	3.13	5.10	2.90	2.12	2.61	3.35	1440.0	0.6891
0215	3.49	6.24	3.13	5.78	3.22	2.83	2.65	3.67	1380.0	0.6953
0230	4.06	6.48	3.15	6.06	4.00	3.00	2.70	4.03	1320.0	0.7013
0245	4.44	6.60	3.23	6.23	4.35	3.21	2.75	4.26	1640.0	0.7086
0300	4.61	6.60	3.95	6.33	4.54	3.27	2.80	4.43	1980.0	0.7175
0315	4.76	6.72	4.43	6.40	4.72	3.34	2.82	4.57	3100.0	0.7314
0330	4.91	6.72	4.65	6.43	4.90	3.45	2.82	4.68	4390.0	0.7511
0345	4.92	6.72	4.79	6.44	4.96	3.53	2.82	4.72	5580.0	0.7762
0400	4.94	6.72	4.93	6.44	4.97	3.54	2.82	4.74	6880.0	0.8071
0415	4.94	6.72	4.98	6.44	4.98	3.54	2.82	4.75	7380.0	0.8402
0430	4.95	6.72	5.00	6.45	4.98	3.54	2.82	4.76	7900.0	0.8934
0500	4.96	6.72	5.01	6.45	4.98	3.54	2.82	4.76	8260.0	0.9490
0515	4.96	6.72	5.01	6.45	4.98	3.56	2.82	4.76	8270.0	0.9861
0530	4.97	6.72	5.02	6.45	4.98	3.56	2.82	4.77	8290.0	1.0420
0600	4.98	6.72	5.02	6.45	4.98	3.56	2.82	4.77	8080.0	1.2959

STA. NO. 08074500

STORM RAINFALL AND RUNOFF RECORD

1978 WATER YEAR

WHITE OAK BAYOU AT HOUSTON, TEX.

STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER 4250	4200	4150	205R	204R	29R	22R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
JUNE 7										
0900	5.02	6.72	5.02	6.45	4.98	3.56	2.82	4.78	4440.0	1.5350
1200	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	2480.0	1.7354
1800	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	1210.0	1.8658
2400	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	749.0	1.9263
JUNE 8										
0000	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	749.0	1.9263
0600	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	468.0	1.9969
1200	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	350.0	2.0346
1800	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	262.0	2.0628
2400	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	214.0	2.0801
JUNE 9										
0000	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	214.0	2.0801
0600	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	161.0	2.1032
1200	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	122.0	2.1164
1800	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	91.0	2.1262
2400	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	78.0	2.1325
JUNE 10										
0000	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	78.0	2.1325
0600	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	61.0	2.1411
1200	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	51.0	2.1466
1800	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	46.0	2.1516
2400	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	44.0	2.1539

08074550 LITTLE WHITEOAK BAYOU AT HOUSTON, TX
(Low-flow partial-record station)

LOCATION.--Lat 29°47'05", long 95°21'56", Harris County, Hydrologic Unit 12040104, at bridge on North Main Street, 0.8 mi (1.3 km) upstream from mouth, and 1.7 mi (2.7 km) north of Harris County courthouse.

DRAINAGE AREA.--20.9 mi² (54.1 km²).

PERIOD OF RECORD.--Occasional discharge measurements and water-quality data: May 1971 to current year.

DISCHARGE AND WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
DEC										
06...	1325	6.9	778	8.0	18.0	20	10	7.4	80	--
JUN										
05...	0850	5.0	525	6.7	26.5	70	20	3.4	43	10
06...	1835	1300	189	6.8	27.0	200	180	5.1	65	18
JUL										
18...	1220	4.6	794	7.1	29.5	30	20	3.7	49	29
AUG										
07...	1025	5.2	815	7.5	28.0	50	10	4.4	56	7.5
30...	1530	132	524	7.1	27.5	120	60	.3	4	74
30...	1615	120	461	7.2	27.5	120	85	3.8	49	43
31...	1000	10	415	7.1	24.0	100	25	.7	9	29

DATE	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
DEC										
06...	3900000	440000	7000	--	--	--	--	--	--	--
JUN										
05...	140000	25000	2500	150	0	46	8.4	48	1.7	4.1
06...	1600000	1000000	70000	77	4	27	2.4	6.5	.3	2.7
JUL										
18...	910000	200000	10000	160	0	46	12	110	3.7	3.9
AUG										
07...	41000	7000	650	150	0	44	10	110	3.9	4.6
30...	3500000	1200000	160000	98	0	31	5.1	61	2.7	4.8
30...	4000000	1200000	52000	--	--	--	--	--	--	--
31...	180000	50000	820	84	0	27	4.0	45	2.1	4.2

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
DEC										
06...	--	--	--	--	--	--	--	13	2	.10
JUN										
05...	220	0	24	40	.4	14	294	27	3	.10
06...	88	0	7.3	5.7	.1	6.5	102	464	56	.28
JUL										
18...	320	0	18	80	.6	8.7	437	28	25	.04
AUG										
07...	320	0	23	80	.4	10	440	17	16	.06
30...	220	0	19	41	.4	11	282	127	53	.58
30...	--	--	--	--	--	--	--	209	73	.73
31...	170	0	14	36	.3	9.4	224	31	18	.06

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DEC									
06...	.05	.15	1.1	.90	2.0	1.2	5.5	--	.40
JUN									
05...	.07	.17	1.2	.80	2.0	.04	8.8	6	.10
06...	.04	.32	.24	1.5	1.7	.56	18	--	.00
JUL									
18...	.00	.04	1.0	2.6	3.6	1.5	11	10	.40
AUG									
07...	.05	.11	3.8	4.0	7.8	2.1	9.3	8	.40
30...	.05	.63	4.5	7.5	12	3.1	70	--	1.0
30...	.07	.80	1.1	4.5	5.6	1.8	37	12	1.1
31...	.01	.07	2.8	2.5	5.3	1.8	22	11	2.0

SAN JACINTO RIVER BASIN

08074550 LITTLE WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JUN							
05...	0850	14	300	1	10	4	40
JUL							
18...	1220	5	400	0	10	3	20
AUG							
07...	1025	9	200	0	0	3	20
31...	1000	31	0	0	0	1	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUN						
05...	3	0	.2	0	0	10
JUL						
18...	0	10	.0	0	0	10
AUG						
07...	0	10	.0	1	0	10
31...	8	120	.0	0	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JUN									
05...	0850	.0	.00	.00	.0	.00	.00	.00	.52
JUL									
18...	1220	.0	.00	.00	.0	.00	.00	.00	.37
AUG									
31...	1000	.0	.00	.00	.1	.00	.00	.00	.73

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
JUN									
05...	.00	.00	.00	.00	.00	.00	.04	.01	.00
JUL									
18...	.01	.00	.00	.00	.00	.00	.01	.02	.00
AUG									
31...	.01	.00	.00	.00	.00	.00	.02	.10	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN								
05...	.00	.00	.00	0	.00	.00	.00	.00
JUL								
18...	.00	.00	.00	0	.00	.00	.00	.00
AUG								
31...	.00	.00	.00	0	.00	.00	.01	.00

BRAYS BAYOU DRAINAGE BASIN

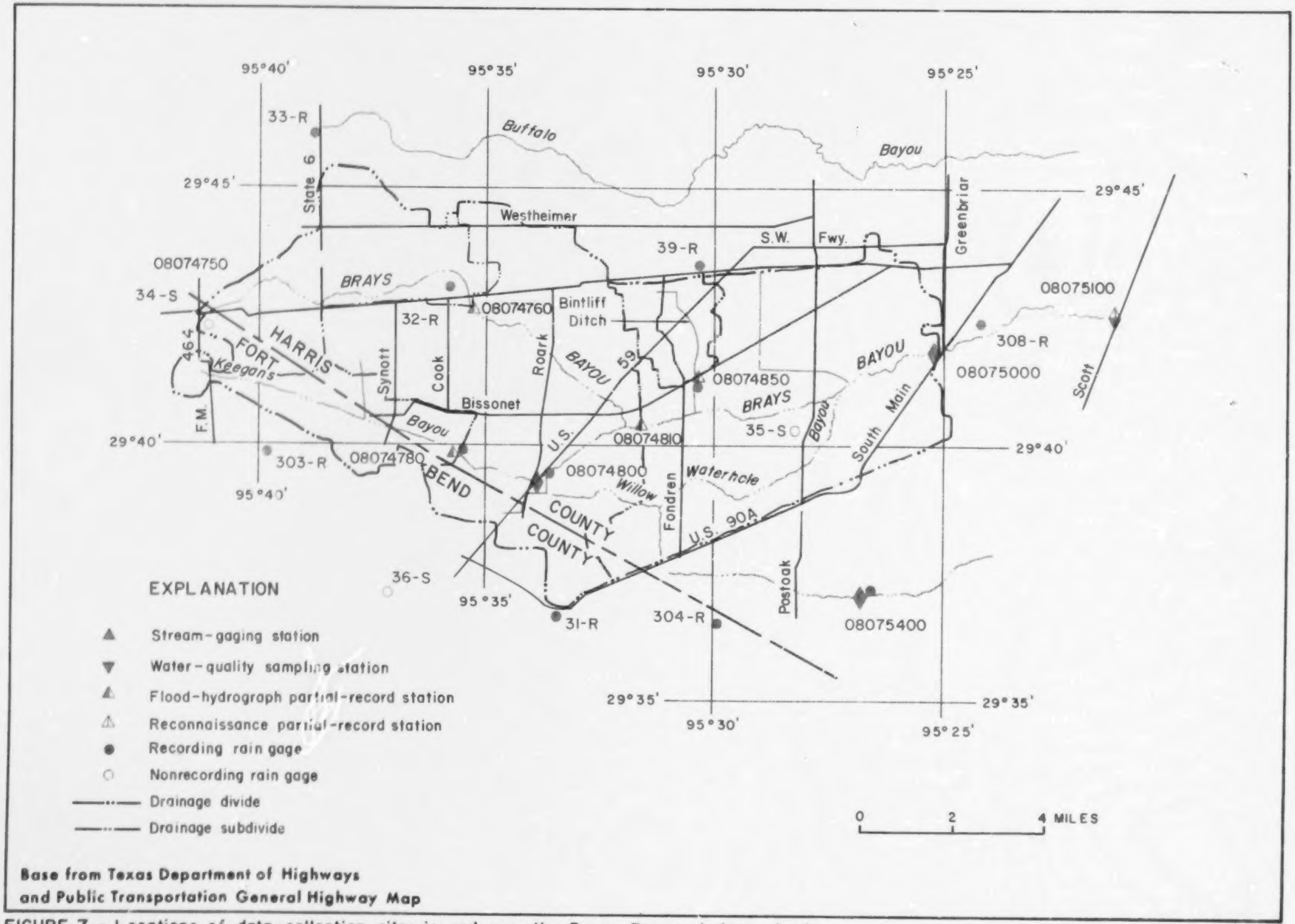
The locations of data-collection sites in and near the Brays Bayou drainage basin are shown on figure 7.

Flood-hydrograph partial-record station 08074760, Brays Bayou at Alief, Tex., was put into operation Feb. 3, 1977.

Bintliff Ditch and Keegans Bayou are shown on separate drainage basins within the Brays Bayou section.

Weighted-mean rainfall in the drainage basin for the 1978 water year based on eight rain gages was 36.1 inches or 12.1 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

No storms were analyzed for the 1978 water year for station 08075000, Brays Bayou at Houston. The storm of June 6-7 was selected for analysis at station 08074760, Brays Bayou at Alief, Tex., and station 08074810, Brays Bayou at Gessner drive, Houston, Tex.



Base from Texas Department of Highways and Public Transportation General Highway Map

FIGURE 7.- Locations of data-collection sites in and near the Brays Bayou drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 5.--Storm rainfall-runoff data, 1978 water year, Brays Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brays Bayou at Alief, TX (Drainage area--14.1 mi^2)								
June 6-7, 1978	14.5	3.54	0.80	0.91	1.82	2.66	0.75	1,510
Brays Bayou at Gessner Drive, Houston, TX (Drainage area--53.2 mi^2)								
June 6-7, 1978	14.8	2.70	1.00	1.62	1.98	1.26	0.47	3,570

08074760 BRAYS BAYOU AT ALIEF, TEX.

(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°42'39", long 95°35'13", Harris County, Hydrologic unit 12040104, near center of channel on downstream side of bridge on High Star Street in Alief, Tex.

DRAINAGE AREA (revised).--14.1 mi^2 effective Jan. 1, 1978. 12.9 mi^2 effective Feb. 3, 1977 to Dec. 31, 1977.

PERIOD OF RECORD.--Feb. 3, 1977 to present.

GAGE.--Digital flood-hydrograph recorder and crest-stage gage. Datum of gage is 55.88 ft National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD FEBRUARY TO SEPTEMBER, 1977.--Peak discharge above base of 300 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Feb. 10	2000	*505	10.13
April 20	1900	361	10.22

Minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 300 ft^3/s or maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Jan. 16	1630	998	11.29
Jan. 19	0430	712	10.54
Feb. 8	0430	328	9.18
June 7	0500	*1,510	13.24

Minimum discharge, not determined.

STA. NO. 08074760 — STORM RAINFALL AND RUNOFF RECORD — 1978 WATER YEAR

BRAYS BAYOU AT ALIEF, TEXAS — STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
	33R	32R								
JUNE 6										
0000	0.0	0.0								
0500	0.77	0.02						0.0	3.0	0.0008
0600	0.80	0.05						0.24	3.0	0.0018
0700	0.80	0.05						0.27	3.0	0.0021
0800	0.80	0.05						0.27	3.0	0.0025
0900	0.80	0.05						0.27	3.0	0.0028
1000	0.80	0.05						0.27	3.0	0.0031
1100	0.80	0.05						0.27	3.0	0.0035
1115	0.80	0.05						0.27	3.0	0.0037
1130	0.87	0.44						0.27	3.0	0.0038
1200	0.87	0.44						0.57	3.0	0.0039
1215	0.87	0.44						0.57	3.0	0.0040
1230	0.88	0.49						0.57	4.0	0.0041
1300	0.88	0.49						0.61	5.0	0.0043
1315	0.88	0.49						0.61	10.0	0.0047
1330	1.20	0.60						0.61	11.0	0.0050
1345	1.40	0.60						0.74	12.0	0.0054
1400	1.56	0.70						0.84	13.0	0.0057
1500	3.39	0.80						0.96	15.0	0.0067
1600	3.46	0.80						1.57	20.0	0.0089
1700	3.46	0.80						1.60	30.0	0.0122
1730	3.46	0.80						1.60	50.0	0.0164
1745	3.46	0.90						1.60	95.0	0.0203
1800	3.46	0.90						1.67	170.0	0.0249
1900	3.46	1.06						1.67	328.0	0.0475
1915	3.46	1.07						1.78	625.0	0.0904
2000	3.47	1.09						1.79	718.0	0.1299
2100	3.50	1.09						1.80	823.0	0.2090
2200	3.51	1.09						1.81	876.0	0.3053
2400	3.51	1.09						1.82	819.0	0.4603
JUNE 7								1.82	639.0	0.5279
0000	3.51	1.09								
0100	4.29	1.60						1.82	638.0	0.5279
0115	4.28	1.60						2.40	554.0	0.5836
0130	4.40	1.70						2.40	540.0	0.5986
0145	4.90	2.50						2.51	522.0	0.6130
0200	5.12	2.60						3.22	505.0	0.6268
0215	5.14	2.65						3.36	489.0	0.6403
0230	5.16	2.70						3.40	478.0	0.6534
0245	5.19	2.75						3.44	566.0	0.6690
								3.48	718.0	0.6887

STA. NO. 08074760

STORM RAINFALL AND RUNOFF RECORD

1978 WATER YEAR

BRAYS BAYOU AT ALIEF, TEXAS

STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
	33R	32R								
JUNE 7										
0300	5.21	2.81						3.53	880.0	0.7491
0400	5.22	2.81						3.53	1360.0	0.8612
0430	5.23	2.81						3.54	1480.0	0.9426
0500	5.23	2.81						3.54	1510.0	1.0255
0530	5.23	2.81						3.54	1480.0	1.1069
0600	5.23	2.81						3.54	1430.0	1.3819
0900	5.23	2.81						3.54	985.0	1.7066
1200	5.23	2.81						3.54	668.0	1.9269
1500	5.23	2.81						3.54	451.0	2.0756
1800	5.23	2.81						3.54	315.0	2.2313
2400	5.23	2.81						3.54	161.0	2.3110
JUNE 8										
0000	5.23	2.81						3.54	161.0	2.3110
0600	5.23	2.81						3.54	110.0	2.4100
1200	5.23	2.81						3.54	83.0	2.4648
1800	5.23	2.81						3.54	65.0	2.5076
2400	5.23	2.81						3.54	56.0	2.5353
JUNE 9										
0000	5.23	2.81						3.54	56.0	2.5353
0600	5.23	2.81						3.54	47.0	2.5756
1200	5.23	2.81						3.54	39.0	2.6013
1800	5.23	2.81						3.54	31.0	2.6217
2400	5.23	2.81						3.54	25.0	2.6341
JUNE 10										
0000	5.23	2.81						3.54	25.0	2.6341
0600	5.23	2.81						3.54	17.0	2.6494
1200	5.23	2.81						3.54	12.0	2.6573
1800	5.23	2.81						3.54	7.3	2.6621
2400	5.23	2.81						3.54	3.9	2.6634

KEEGANS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Keegans Bayou drainage basin are shown on figure 8.

Weighted-mean rainfall in the drainage basin, based on two rain gages for the 1978 water year was 35.21 inches or 13.0 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storm of June 7 was selected for analysis at stations 08074780, Keegans Bayou at Keegan Road near Houston, and 08074800, Kegans Bayou at Roark Road near Houston

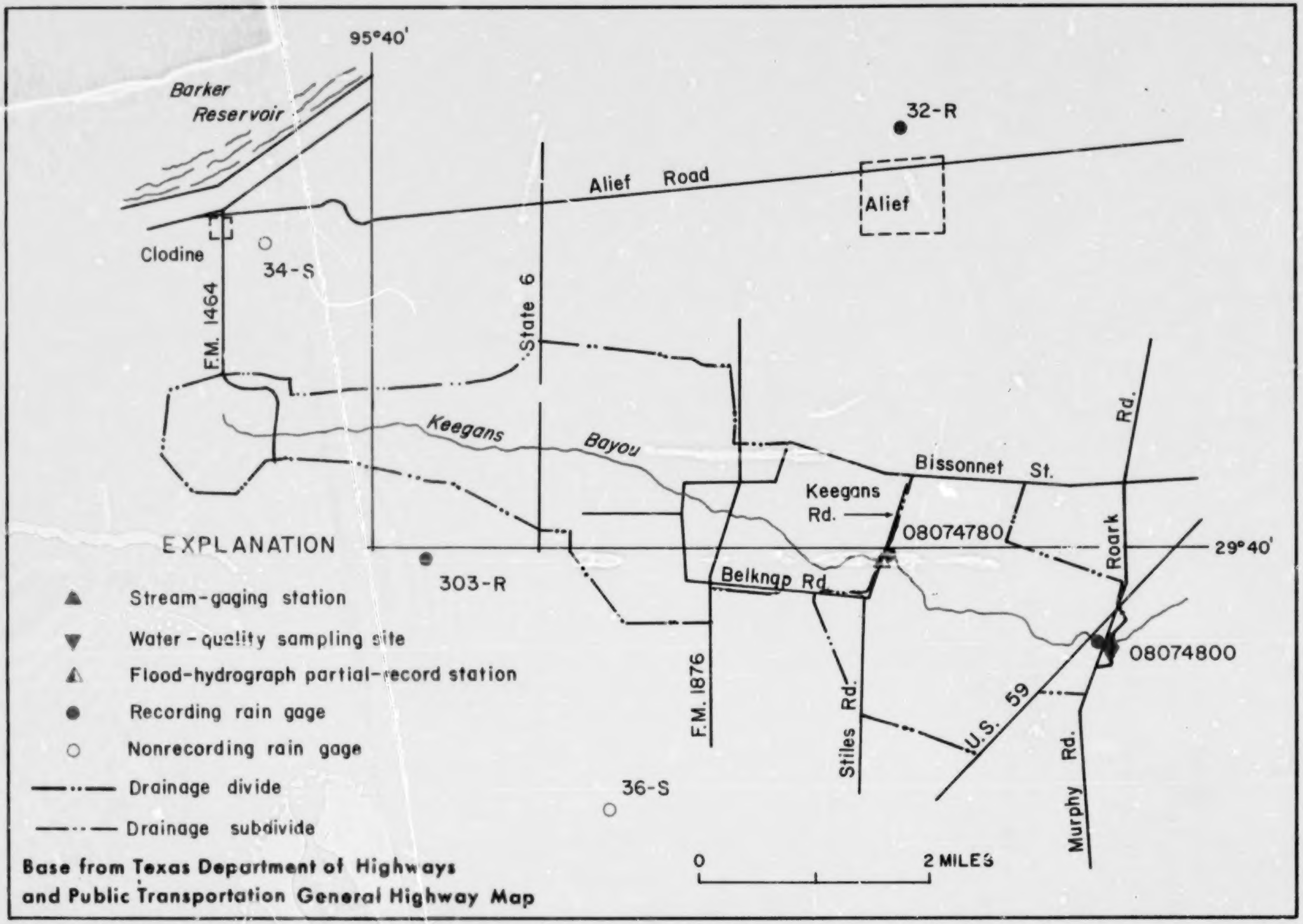


FIGURE 8.-Locations of data-collection sites in and near the Keegans Bayou drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 6.--Storm rainfall-runoff data, 1978 water year, Keegans Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Keegans Bayou at Keegan Road, Houston, TX (Drainage area--7.47 mi^2)								
June 7, 1978	1.2	2.01	0.94	1.62	1.74	0.37	0.18	194
Keegans Bayou at Roark Road, Houston, TX (Drainage area--11.5 mi^2)								
June 7, 1978	1.2	2.02	1.00	1.62	1.98	0.68	0.34	485

08074780 KEEGANS BAYOU AT KEEGAN ROAD NEAR HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°39'55", long 95°35'42", Harris County, Hydrologic Unit 12040104 on downstream side of bridge on Keegan Road, 2.35 miles upstream from station, Keegans Bayou at Roark Road, and about 16 miles southwest of Houston.

DRAINAGE AREA.--7.47 mi^2. Prior to Jan. 1, 1978, 7.87 mi^2. Prior to Oct. 1, 1973, 6.93 mi^2.

PERIOD OF RECORD.--August 1964 to September 1971, August 5, 1974 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 25, 1978 a flood-hydrograph and rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 622 ft^3/s, June 10, 1975. Maximum elvation 83.55 ft April 14, 1966, (prior to channel improvement). Minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 250 ft^3/s, and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Jan. 16	Unknown	*225	75.76
June 7	0330	194	75.77

Minimum discharge not determined.

STA. NO. 08074780 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

KEEGANS BAYOU AT KEEGAN ROAD NEAR HOUSTON, TEX. STORM OF JUNE 7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
	4780	3038								
JUNE 7										
0000	0.0	0.0						0.0	3.0	0.0004
0115	0.0	0.0						0.0	3.0	0.0008
0130	0.0	0.06						0.04	3.0	0.0010
0145	0.48	1.00						0.82	3.0	0.0011
0200	1.20	1.68						1.51	20.0	0.0021
0215	1.32	1.72						1.58	72.0	0.0056
0230	1.44	1.80						1.67	132.0	0.0121
0245	1.56	1.90						1.78	165.0	0.0203
0300	1.56	1.95						1.81	186.0	0.0294
0315	1.56	2.00						1.85	193.0	0.0389
0330	1.56	2.00						1.85	194.0	0.0485
0345	1.56	2.00						1.85	194.0	0.0580
0400	1.56	2.00						1.86	191.0	0.0721
0430	1.56	2.00						1.85	185.0	0.0903
0500	1.56	2.00						1.85	178.0	0.1166
0600	1.56	2.00						1.85	160.0	0.1481
0700	1.56	2.00						1.85	136.0	0.1749
0800	1.56	2.00						1.85	111.0	0.2077
1000	1.56	2.00						1.85	64.0	0.2329
1200	1.56	2.00						1.85	36.0	0.2471
1400	1.56	2.00						1.85	29.0	0.2535
1415	1.56	2.00						1.85	28.0	0.2549
1430	1.80	2.00						1.93	24.0	0.2562
1445	2.04	2.00						2.01	27.0	0.2576
1500	2.04	2.00						2.01	27.0	0.2609
1600	2.04	2.00						2.01	25.0	0.2683
1800	2.04	2.00						2.01	24.0	0.2801
2100	2.04	2.00						2.01	23.0	0.2937
2400	2.04	2.00						2.01	21.0	0.3123
JUNE 8										
0000	2.04	2.00						2.01	21.0	0.3123
1200	2.04	2.00						2.01	14.0	0.3578
2400	2.04	2.00						2.01	10.0	0.3696

SAN JACINTO RIVER BASIN

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX

LOCATION.--Lat 29°39'23", long 95°33'43", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on Roark Road and about 2 mi (3 km) southwest of city limits of Houston.

DRAINAGE AREA (revised).--11.5 mi^2 (29.8 km^2). Oct. 1, 1976, to Dec. 31, 1977, 12.0 mi^2 (31.1 km^2); August 1964 to Sept. 30, 1976, 11.6 mi^2 (30.0 km^2). Drainage area changes were the result of ditch relocations or extensions.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year.

REVISED RECORDS.--WDR TX-74-1: Drainage area. WDR TX-77-2: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records poor. Recording rain gage at station.

AVERAGE DISCHARGE.--14 years, 10.6 ft^3/s (0.300 m^3/s), 7,680 acre-ft/yr (9.47 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,570 ft^3/s (44.5 m^3/s) June 13, 1973, elevation, 73.37 ft (22.363 m); no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft^3/s (7.08 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Elevation (ft)	Elevation (m)
aDec. 13	1200	222	6.29	66.57	20.291	aJune 2	2100	34	0.96	63.17	19.254
Jan. 11	1930	*558	15.8	68.94	21.013	June 7	0330	485	13.7	68.77	20.961
Jan. 16	1430	508	14.4	68.32	20.824	aJuly 19	1030	298	8.44	67.30	20.513
Jan. 19	0300	441	12.5	67.86	20.684	aAug. 8	1800	43	1.22	63.62	19.391
aMay 29	2300	107	3.03	64.86	19.769	aAug. 31	1100	23	.65	62.61	19.084

a Water-quality samples were obtained during this flood event.

Minimum daily discharge, 1.8 ft^3/s (0.051 m^3/s) Apr. 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	32	4.5	2.7	9.5	2.1	2.1	3.7	3.5	7.2	4.8	6.7
2	3.4	14	3.1	5.4	6.2	2.1	2.0	8.0	13	3.5	4.9	4.8
3	3.2	3.6	2.7	3.8	5.6	2.0	4.3	16	29	3.2	3.9	5.2
4	3.3	2.9	2.7	2.4	4.9	8.2	6.5	4.6	6.9	3.7	3.8	4.6
5	3.3	2.3	2.3	2.4	4.5	5.3	4.7	4.1	4.8	3.9	3.8	5.0
6	3.2	2.8	2.4	2.2	4.1	4.2	5.2	3.7	4.3	4.2	25	4.8
7	3.8	2.5	2.0	12	39	5.8	4.6	4.0	163	4.0	8.9	9.3
8	3.4	54	2.5	4.8	129	3.4	3.4	3.6	26	4.1	12	6.6
9	3.4	12	2.0	2.6	50	2.4	3.1	3.8	16	3.5	5.5	5.8
10	4.3	3.7	2.3	2.4	22	2.5	5.1	3.2	8.0	4.4	5.1	45
11	64	2.9	2.0	132	13	7.3	5.6	4.9	5.4	4.3	5.1	43
12	7.1	2.4	2.1	63	90	4.7	7.6	3.7	5.1	4.4	5.3	10
13	4.9	2.4	61	13	54	4.9	4.7	3.2	8.1	5.7	13	23
14	4.2	2.9	9.1	5.7	21	3.7	3.2	3.1	3.8	5.8	5.2	21
15	3.6	2.1	4.9	3.9	10	3.8	3.2	4.0	4.2	3.9	4.5	11
16	4.0	1.9	3.1	197	8.5	3.5	2.9	3.3	3.4	3.5	4.7	6.9
17	3.8	4.0	2.9	113	105	3.5	3.8	3.8	3.9	4.0	5.4	4.6
18	4.0	4.2	2.4	144	52	3.7	2.9	3.1	3.6	4.1	5.0	5.9
19	3.9	2.2	2.5	254	17	3.7	1.9	3.7	4.5	61	5.1	4.2
20	3.5	2.2	2.6	100	10	3.9	1.8	3.3	3.5	7.8	6.6	4.9
21	4.1	38	2.3	48	7.4	3.4	1.8	3.4	4.1	5.3	6.1	36
22	6.5	17	2.8	16	6.2	3.5	7.6	3.4	3.3	7.1	4.5	16
23	4.3	6.1	2.6	16	5.6	3.5	15	3.7	3.8	4.4	5.1	9.7
24	4.5	3.1	2.4	30	4.7	9.4	4.3	3.4	3.1	3.8	4.9	7.0
25	3.6	2.4	2.0	25	4.4	3.9	3.4	3.6	3.7	3.8	5.3	6.6
26	3.6	2.6	2.5	13	4.3	3.4	2.7	3.7	3.4	4.5	5.2	4.3
27	3.4	2.2	3.2	7.5	4.3	3.9	3.7	3.4	3.9	11	5.4	4.1
28	3.1	2.3	3.7	5.2	3.6	3.7	3.4	3.1	6.8	5.9	5.2	4.8
29	3.6	8.3	5.0	4.7	---	3.3	2.9	10	6.2	4.5	5.0	4.6
30	3.9	10	4.2	4.5	---	2.0	3.2	12	6.9	4.0	6.7	4.5
31	3.9	---	2.4	8.5	---	2.1	---	4.1	---	5.4	9.2	---
TOTAL	182.2	249.0	152.2	1244.7	695.8	122.8	126.6	144.6	365.2	205.9	200.2	329.9
MEAN	5.88	8.30	4.91	40.2	24.9	3.96	4.22	4.66	12.2	6.64	6.46	11.0
MAX	64	54	61	254	129	9.4	15	16	163	61	25	45
MIN	3.1	1.9	2.0	2.2	3.6	2.0	1.8	3.1	3.1	3.2	3.8	4.1
AC-FT	361	494	302	2470	1380	244	251	287	724	408	397	654
(††)	1.99	4.72	1.34	6.87	3.24	.47	1.11	1.63	4.72	2.17	1.21	5.78

CAL YR 1977 TOTAL 3027.6 MEAN 8.29 MAX 217 MIN 1.9 AC-FT 6010 †† 31.17
WTR YR 1978 TOTAL 4019.1 MEAN 11.0 MAX 254 MIN 1.8 AC-FT 7970 †† 35.25

†† Weighted-mean rainfall, in inches, based on two rain gages.

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year. Sediment analyses: October 1970 to September 1971.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
DEC										
14...	1220	8.9	456	7.6	18.0	700	150	6.9	75	7.8
MAR										
01...	0930	2.0	873	7.6	17.0	10	10	6.6	70	11
APR										
25...	1330	3.3	780	7.6	26.5	20	30	6.9	86	7.8
MAY										
30...	1105	8.0	546	6.4	26.0	30	30	4.6	58	5.4
JUN										
02...	1235	14	437	6.3	27.0	40	100	5.5	70	16
JUL										
11...	1045	3.8	778	7.4	28.5	30	20	3.8	49	7.5
19...	1410	141	231	6.6	27.0	110	250	4.5	57	16
19...	1745	60	263	7.0	28.0	110	225	4.1	53	14
31...	0830	6.2	710	7.4	25.5	50	60	4.2	52	11
AUG										
09...	0850	4.6	690	7.3	26.0	60	30	4.1	51	6.0
23...	1240	5.4	791	7.9	27.5	40	30	6.8	87	3.6
31...	1100	22	567	7.5	23.5	50	60	5.5	66	18
SEP										
25...	0945	8.0	636	7.3	23.5	40	50	5.9	71	10

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
DEC										
14...	54000	6700	520	--	--	--	--	--	--	--
MAR										
01...	950	64	16	250	0	75	16	75	2.1	7.0
APR										
25...	35000	700	310	230	4	72	13	65	1.9	8.4
MAY										
30...	120000	8300	2500	--	--	--	--	--	--	--
JUN										
02...	520000	34000	19000	130	1	41	7.2	35	1.3	5.6
JUL										
11...	46000	9300	1500	220	28	67	12	69	2.0	8.3
19...	39000	26000	8900	66	9	21	3.2	15	.8	4.6
19...	21000	14000	8000	--	--	--	--	--	--	--
31...	100000	3800	3400	--	--	--	--	--	--	--
AUG										
09...	59000	9700	6700	--	--	--	--	--	--	--
23...	54000	3500	620	--	--	--	--	--	--	--
31...	100000	30000	8000	160	16	52	9.1	42	1.4	7.0
SEP										
25...	140000	16000	2800	--	--	--	--	--	--	--

SAN JACINTO RIVER BASIN

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
DEC										
14...	--	--	--	--	--	--	--	218	32	2.5
MAR										
01...	320	0	31	78	.3	24	464	19	9	4.3
APR										
25...	280	0	44	70	.3	22	433	30	17	4.0
MAY										
30...	--	--	--	--	--	--	--	59	18	4.5
JUN										
02...	160	0	23	37	.2	15	243	220	16	2.1
JUL										
11...	230	0	43	78	.2	21	412	56	41	5.9
19...	69	0	14	18	.2	6.7	117	652	132	1.7
19...	--	--	--	--	--	--	--	396	104	1.8
31...	--	--	--	--	--	--	--	112	21	3.0
AUG										
09...	--	--	--	--	--	--	--	45	11	3.7
23...	--	--	--	--	--	--	--	62	15	6.8
31...	180	0	47	50	.2	18	313	144	30	2.1
SEP										
25...	--	--	--	--	--	--	--	111	33	3.8

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
DEC									
14...	.03	2.5	.52	1.6	2.1	3.4	12	--	.20
MAR									
01...	.22	4.5	4.2	1.1	5.3	6.0	9.0	4	.60
APR									
25...	.36	4.4	1.1	1.7	2.8	5.2	8.3	--	.30
MAY									
30...	.24	4.7	.67	1.4	2.1	5.0	9.4	--	.20
JUN									
02...	.21	2.3	.36	1.5	1.9	1.7	19	--	.00
JUL									
11...	.32	6.2	.68	2.2	2.9	6.3	6.8	3	.20
19...	.05	1.7	.52	2.4	2.9	1.7	18	--	.20
19...	.07	1.9	.36	2.4	2.8	1.8	14	3	.20
31...	.20	3.2	2.1	1.2	3.3	6.5	14	--	.50
AUG									
09...	.24	3.9	.63	.77	1.4	4.7	7.4	--	.30
23...	.27	7.1	.36	1.4	1.8	7.9	6.2	--	.10
31...	.18	2.3	.78	1.9	2.7	3.6	15	5	.20
SEP									
25...	.28	4.1	.39	1.2	1.6	5.5	7.7	--	.30

08074800 KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR							
01...	0930	4	200	1	0	3	20
JUL							
11...	1045	8	--	0	20	3	20
19...	1410	41	400	0	0	4	30
AUG							
31...	1100	12	100	1	60	2	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR						
01...	0	110	.0	2	0	30
JUL						
11...	0	0	.0	2	0	20
19...	0	0	.0	1	0	10
AUG						
31...	3	0	.0	1	0	20

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
MAR									
01...	0930	.0	.00	.00	.0	.00	.00	.00	.15
JUL									
11...	1045	.0	.00	.00	.0	.00	.00	.00	.59
19...	1410	.0	.00	.00	.1	.00	.00	.00	1.8
AUG									
31...	1100	.0	.00	.00	.3	.00	.00	.00	.38

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
MAR									
01...	.01	.00	.00	.00	.00	.00	.01	.00	.00
JUL									
11...	.01	.00	.00	.00	.00	.01	.03	.00	.00
19...	.01	.00	.00	.00	.00	.02	.04	.14	.00
AUG									
31...	.00	.00	.00	.00	.01	.00	.03	.04	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR								
01...	.00	--	.00	0	.00	--	--	--
JUL								
11...	.00	.00	.00	0	.00	1.8	.09	.00
19...	.00	.00	.00	0	.00	.00	.00	.00
AUG								
31...	.00	.00	.00	0	.00	.01	.09	.01

STA. NO. 08074800 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX. STORM OF JUNE 7 1978

DATE & TIME	GAGE NUMBER 4800	4780	3038					ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
JUNE 7										
0000	0.0	0.0	0.0					0.0	4.3	0.0003
0115	0.0	0.0	0.0					0.0	4.3	0.0008
0130	0.0	0.0	0.06					0.03	4.3	0.0009
0145	0.0	0.48	1.00					0.67	4.3	0.0010
0200	0.0	1.20	1.68					1.29	4.3	0.0011
0215	0.60	1.32	1.72					1.42	4.3	0.0012
0230	1.60	1.44	1.80					1.62	49.0	0.0028
0245	1.95	1.56	1.90					1.76	265.0	0.0114
0300	1.98	1.56	1.95					1.79	444.0	0.0257
0315	2.01	1.56	2.00					1.81	485.0	0.0414
0330	2.04	1.56	2.00					1.82	485.0	0.0570
0345	2.04	1.56	2.00					1.82	457.0	0.0718
0400	2.04	1.56	2.00					1.82	431.0	0.0927
0430	2.04	1.56	2.00					1.82	417.0	0.1196
0500	2.04	1.56	2.00					1.82	413.0	0.1596
0600	2.04	1.56	2.00					1.82	386.0	0.2343
0800	2.04	1.56	2.00					1.82	318.0	0.3165
1000	2.04	1.56	2.00					1.82	252.0	0.3816
1200	2.04	1.56	2.00					1.82	190.0	0.4337
1415	2.04	1.56	2.00					1.82	129.0	0.4545
1430	2.04	1.80	2.00					1.92	123.0	0.4585
1445	2.04	2.04	2.00					2.02	116.0	0.4697
1600	2.04	2.04	2.00					2.02	89.0	0.4884
1800	2.04	2.04	2.00					2.02	57.0	0.5031
2000	2.04	2.04	2.00					2.02	45.0	0.5147
2200	2.04	2.04	2.00					2.02	38.0	0.5246
2400	2.04	2.04	2.00					2.02	34.0	0.5311
JUNE 8										
0000	2.04	2.04	2.00					2.02	34.0	0.5311
0200	2.04	2.04	2.00					2.02	31.0	0.5413
0400	2.04	2.04	2.00					2.02	28.0	0.5504
0700	2.04	2.04	2.00					2.02	26.0	0.5605
1000	2.04	2.04	2.00					2.02	26.0	0.5722
1400	2.04	2.04	2.00					2.02	28.0	0.5903
2000	2.04	2.04	2.00					2.02	27.0	0.6077
2400	2.04	2.04	2.00					2.02	25.0	0.6206
JUNE 9										
0000	2.04	2.04	2.00					2.02	25.0	0.6206
0800	2.04	2.04	2.00					2.02	16.0	0.6436
1600	2.04	2.04	2.00					2.02	13.0	0.6570
2400	2.04	2.04	2.00					2.02	12.0	0.6663
JUNE 10										

STA. NO. 08074800 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

KEEGANS BAYOU AT ROARK ROAD NEAR HOUSTON, TEX. STORM OF JUNE 7 1978

DATE & TIME	GAGE NUMBER 4800	4780	3038					ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
JUNE 10										
0000	2.04	2.04	2.00					2.02	12.0	0.6663
0800	2.04	2.04	2.00					2.02	7.8	0.6775
1600	2.04	2.04	2.00					2.02	7.4	0.6780
2400	2.04	2.04	2.00					2.02	6.7	0.6784

08074810 BRAYS BAYOU AT GESSNER DRIVE, HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°40'21", long 95°31'41", Harris County, Hydrologic unit 12040104 on right bank on downstream side of bridge at Gessner Drive in southwest Houston.

DRAINAGE AREA (revised).--53.2 mi^2. Prior to Jan. 1, 1978, 51.7 mi^2.

PERIOD OF RECORD.--Feb. 1, 1977 to current year.

GAGE.--Digital flood-hydrograph recorder and crest-stage gage. Datum of gages is National Geodetic Vertical Datum of 1929, 1964 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 3,570 ft^3/s, June 7, 1978 (elevation 52.34 ft); minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 2,200 ft^3/s (revised) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Jan. 11	unknown	est. 2,400	unknown
Jan. 16	1430	2,730	50.92
June 7	0430	*3,570	52.34

Minimum dischrge not determined.

STA. NO. 08074810 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRAYS BAYOU AT GESSNER DRIVE, HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP.	DISCHARGE IN	ACCUM. RUNOFF
	4850	4800	4780	303R	33R	32R		IN.	FT³/S	IN.
JUNE 6										
0000	0.0	0.0	0.0	0.0	0.0	0.0		0.0	13.0	0.0008
0400	0.0	0.0	0.0	0.0	0.0	0.0		0.0	13.0	0.0017
0430	0.0	0.0	0.0	0.0	0.0	0.0		0.0	13.0	0.0018
0445	0.0	0.0	0.0	0.04	0.07	0.0		0.01	13.0	0.0019
0500	0.0	0.0	0.0	0.07	0.77	0.02		0.06	13.0	0.0020
0515	0.0	0.0	0.0	0.22	0.77	0.02		0.08	13.0	0.0021
0530	0.0	0.0	0.0	0.30	0.77	0.02		0.09	13.0	0.0022
0600	0.0	0.0	0.0	0.30	0.80	0.05		0.10	13.0	0.0025
0700	0.0	0.0	0.0	0.30	0.80	0.05		0.10	13.0	0.0035
1100	0.0	0.0	0.0	0.30	0.80	0.05		0.10	12.0	0.0043
1115	0.0	0.0	0.0	0.30	0.80	0.05		0.10	12.0	0.0044
1130	0.0	0.0	0.0	0.50	0.87	0.44		0.27	12.0	0.0045
1200	0.0	0.0	0.0	0.50	0.87	0.44		0.27	12.0	0.0046
1215	0.0	0.0	0.0	0.50	0.87	0.44		0.27	12.0	0.0047
1230	0.0	0.06	0.0	1.00	0.88	0.49		0.38	12.0	0.0048
1245	0.0	0.06	0.0	1.02	0.88	0.49		0.38	13.0	0.0049
1300	0.0	0.06	0.0	1.02	0.88	0.49		0.38	14.0	0.0050
1315	0.0	0.06	0.0	1.02	0.88	0.49		0.38	19.0	0.0051
1330	0.12	0.06	0.12	1.02	1.20	0.60		0.46	21.0	0.0053
1345	0.12	0.06	0.12	1.02	1.40	0.60		0.47	23.0	0.0055
1400	0.24	0.06	0.12	1.02	1.56	0.70		0.53	25.0	0.0059
1500	0.24	0.06	0.12	1.02	3.38	0.80		0.66	29.0	0.0068
1600	0.24	0.06	0.12	1.02	3.46	0.80		0.66	30.0	0.0077
1700	0.24	0.06	0.12	1.02	3.46	0.80		0.66	34.0	0.0085
1730	0.24	0.06	0.12	1.02	3.46	0.80		0.66	37.0	0.0089
1745	0.24	0.11	0.12	1.02	3.46	0.90		0.70	39.0	0.0092
1800	0.24	0.11	0.12	1.02	3.46	0.90		0.70	41.0	0.0100
1900	0.24	0.11	0.12	1.02	3.46	1.06		0.76	49.0	0.0109
1915	0.24	0.11	0.12	1.04	3.46	1.07		0.77	53.0	0.0117
2000	0.24	0.11	0.12	1.08	3.47	1.09		0.78	282.0	0.0159
2015	0.24	0.11	0.12	1.05	3.47	1.09		0.78	408.0	0.0190
2030	0.24	0.11	0.12	1.07	3.47	1.09		0.78	535.0	0.0230
2045	0.24	0.11	0.12	1.12	3.47	1.09		0.79	634.0	0.0277
2100	0.24	0.11	0.12	1.16	3.50	1.09		0.79	732.0	0.0414
2200	0.24	0.11	0.12	1.16	3.51	1.09		0.79	912.0	0.0824
2400	0.24	0.11	0.12	1.16	3.51	1.09		0.79	842.0	0.1140
JUNE 7										
0000	0.24	0.11	0.12	1.16	3.51	1.09		0.79	842.0	0.1140
0100	0.24	0.11	0.12	1.16	4.28	1.60		1.01	791.0	0.1351
0115	0.24	0.11	0.12	1.16	4.28	1.60		1.01	775.0	0.1409

STA. NO. 08074810 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRAYS BAYOU AT GESSNER DRIVE, HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT3/S	ACCUM. RUNOFF IN.
	4850	4800	4780	303R	33R	32R				
JUNE 7										
0130	0.24	0.11	0.12	1.28	4.40	1.70		1.07	760.0	0.1466
0145	0.24	0.11	0.60	2.22	4.90	2.50		1.59	740.0	0.1521
0200	0.24	0.11	1.32	2.90	5.12	2.60		1.84	720.0	0.1575
0215	0.24	0.71	1.44	2.94	5.14	2.65		2.01	960.0	0.1647
0230	0.96	1.71	1.56	3.02	5.16	2.70		2.33	1190.0	0.1737
0245	1.68	2.06	1.68	3.12	5.19	2.75		2.52	1680.0	0.1862
0300	1.80	2.09	1.68	3.17	5.21	2.81		2.57	2180.0	0.2026
0315	1.92	2.12	1.68	3.22	5.21	2.81		2.59	2660.0	0.2225
0330	2.04	2.15	1.68	3.22	5.21	2.81		2.61	3130.0	0.2460
0345	2.04	2.15	1.68	3.22	5.22	2.81		2.61	3280.0	0.2705
0400	2.04	2.15	1.68	3.22	5.22	2.81		2.61	3430.0	0.3091
0430	2.04	2.15	1.68	3.22	5.23	2.81		2.61	3570.0	0.3626
0500	2.04	2.15	1.68	3.22	5.23	2.81		2.61	3420.0	0.4395
0600	2.04	2.15	1.68	3.22	5.23	2.81		2.61	2790.0	0.5231
0700	2.04	2.15	1.68	3.22	5.23	2.81		2.61	2310.0	0.6269
0900	2.04	2.15	1.68	3.22	5.23	2.81		2.61	1690.0	0.7536
1200	2.04	2.15	1.68	3.22	5.23	2.81		2.61	1180.0	0.8111
1215	2.04	2.15	1.68	3.22	5.23	2.81		2.61	1160.0	0.8197
1230	2.16	2.15	1.68	3.22	5.23	2.81		2.63	1140.0	0.8496
1400	2.16	2.15	1.68	3.22	5.23	2.81		2.63	978.0	0.8753
1415	2.16	2.15	1.68	3.22	5.23	2.81		2.63	953.0	0.8824
1430	2.16	2.15	1.92	3.22	5.23	2.81		2.66	928.0	0.8894
1445	2.16	2.15	2.16	3.22	5.23	2.81		2.70	900.0	0.8961
1500	2.16	2.15	2.16	3.22	5.23	2.81		2.70	873.0	0.9387
1800	2.16	2.15	2.16	3.22	5.23	2.81		2.70	666.0	0.9985
2100	2.16	2.15	2.16	3.22	5.23	2.81		2.70	511.0	1.0445
2400	2.16	2.15	2.16	3.22	5.23	2.81		2.70	394.0	1.0711
JUNE 8										
0000	2.16	2.15	2.16	3.22	5.23	2.81		2.70	394.0	1.0711
0300	2.16	2.15	2.16	3.22	5.23	2.81		2.70	310.0	1.1078
0600	2.16	2.15	2.16	3.22	5.23	2.81		2.70	245.0	1.1298
0900	2.16	2.15	2.16	3.22	5.23	2.81		2.70	200.0	1.1478
1200	2.16	2.15	2.16	3.22	5.23	2.81		2.70	179.0	1.1719
1800	2.16	2.15	2.16	3.22	5.23	2.81		2.70	126.0	1.1946
2400	2.16	2.15	2.16	3.22	5.23	2.81		2.70	94.0	1.2073
JUNE 9										
0000	2.16	2.15	2.16	3.22	5.23	2.81		2.70	94.0	1.2073
0600	2.16	2.15	2.16	3.22	5.23	2.81		2.70	69.0	1.2239
1200	2.16	2.15	2.16	3.22	5.23	2.81		2.70	56.0	1.2340
1800	2.16	2.15	2.16	3.22	5.23	2.81		2.70	47.0	[illegible].2424
2400	2.16	2.15	2.16	3.22	5.23	2.81		2.70	38.0	[illegible].2476
JUNE 10										

STA. NO. 08074810 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRAYS BAYOU AT GESSNER DRIVE, HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
	4850	4800	4780	303R	33R	32R				
JUNE 10										
0000	2.16	2.15	2.16	3.22	5.23	2.81		2.70	38.0	1.2476
0600	2.16	2.15	2.16	3.22	5.23	2.81		2.70	30.0	1.2547
1200	2.16	2.15	2.16	3.22	5.23	2.81		2.70	22.0	1.2586
1800	2.16	2.15	2.16	3.22	5.23	2.81		2.70	16.0	1.2615
2400	2.16	2.15	2.16	3.22	5.23	2.81		2.70	12.0	1.2626

BINTLIFF DITCH DRAINAGE BASIN

The location of data-collection sites in and near the Bintliff Ditch drainage basin are shown on figure 9.

Weighted-mean rainfall for the 1978 water year was not determined.

The storm of June 7 was selected for analysis for the 1978 water year.

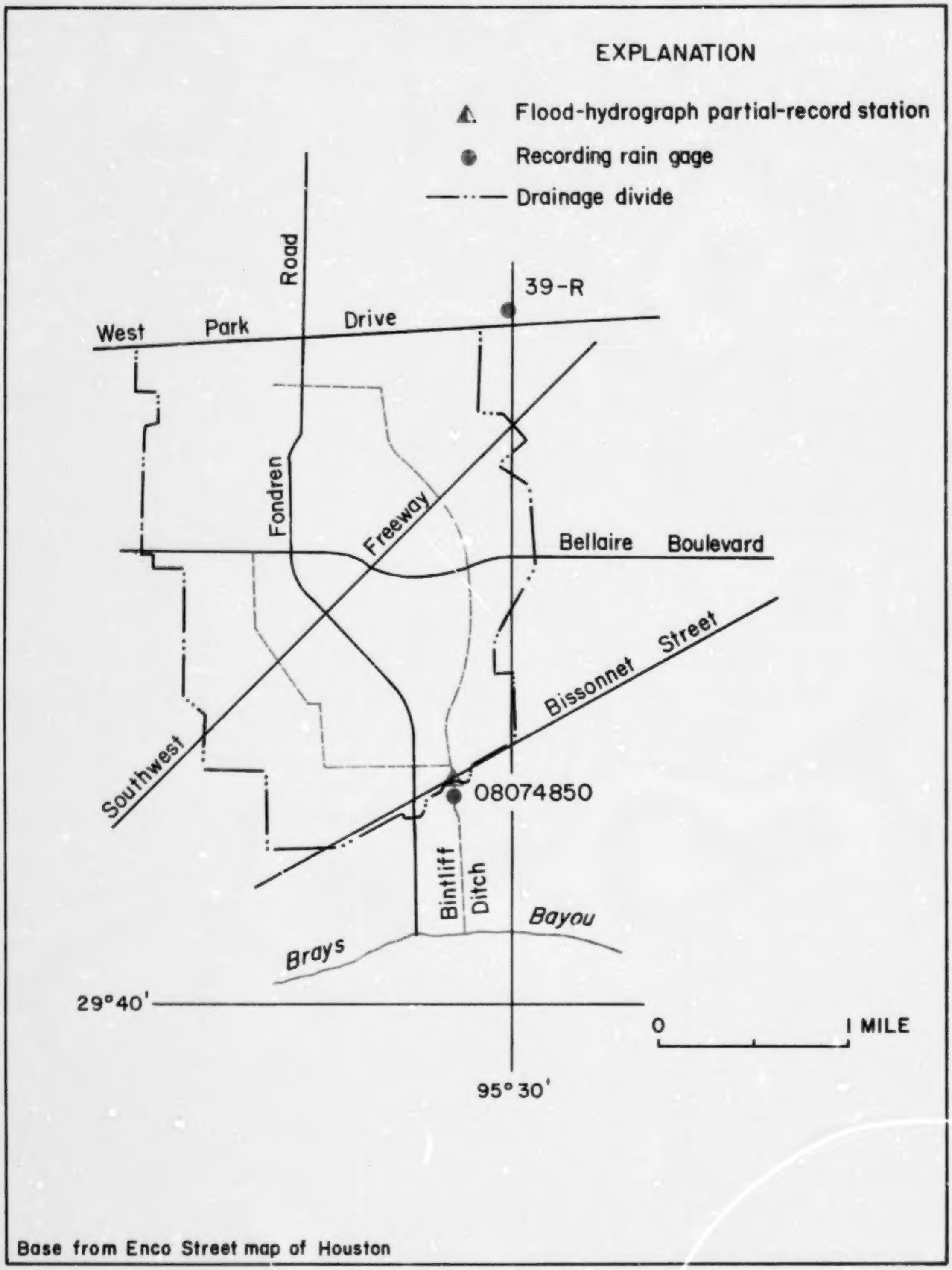


FIGURE 9.—Locations of data-collection sites in and near the Bintliff Ditch drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 7.--Storm rainfall-runoff data, 1978 water year, Bintliff Ditch

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Bintliff Ditch at Bissonnet Street, Houston, TX (Drainage area--4.38 mi^2)								
June 7, 1978	1.0	1.99	1.05	1.55	1.95	1.20	0.60	1,020

08074850 Bintliff Ditch at Bissonnet Street, Houston, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°41'16", long 95°30'20", Harris County, Hydrologic Unit 12040104, downstream side of bridge on Bissonnet Street, in southwest Houston, Tex.

DRAINAGE AREA.--4.38 mi^2. Prior to October 1, 1973, 4.29 mi^2.

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to Mar. 29, 1978 flood-hydrograph and rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1964 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 1,170 ft^3/s, June 15, 1976 elevation 63.19 ft). Minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 800 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Jan. 11	unknown	834	60.69
May 29	2245	886	61.10
June 7	0400	*1,020	62.10

Minimum discharge not determined.

STA. NO. 08074850 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BINTLIFF DITCH AT BISSONNET STREET, HOUSTON, TEX. STORM OF JUNE 7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
	4850	39R								
JUNE 7										
0000	0.0	0.0						0.0	2.5	0.0009
0200	0.0	0.0						0.0	2.5	0.0019
0215	0.0	1.05						0.47	2.5	0.0021
0230	0.72	1.55						1.09	35.0	0.0052
0245	1.44	1.78						1.59	443.0	0.0444
0300	1.56	1.95						1.74	488.0	0.0875
0315	1.69	2.05						1.85	695.0	0.1490
0330	1.80	2.06						1.92	875.0	0.2264
0345	1.80	2.06						1.92	1000.0	0.3148
0400	1.80	2.06						1.92	1020.0	0.4051
0415	1.80	2.08						1.93	1000.0	0.4935
0430	1.80	2.08						1.93	925.0	0.6162
0500	1.80	2.08						1.93	750.0	0.7489
0530	1.80	2.08						1.93	581.0	0.8517
0600	1.80	2.08						1.93	452.0	0.9716
0700	1.80	2.08						1.93	233.0	1.0540
0800	1.80	2.08						1.93	121.0	1.0968
0900	1.80	2.08						1.93	76.0	1.1237
1000	1.80	2.08						1.93	49.0	1.1411
1100	1.80	2.08						1.93	34.0	1.1546
1215	1.80	2.08						1.93	27.0	1.1618
1230	1.92	2.08						1.99	26.0	1.1744
1500	1.92	2.08						1.99	13.0	1.1871
1800	1.92	2.08						1.99	5.0	1.1924
2100	1.92	2.08						1.99	3.0	1.1956
2400	1.92	2.08						1.99	2.5	1.1969

SAN JACINTO RIVER BASIN

08075000 BRAYS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°41'49", long 95°24'43", Harris County, Hydrologic Unit 12040104, near right hank at downstream side of pile bend of Main Street Bridge in southwest Houston, 1.6 mi (2.6 km) upstream from Harris Gully, and 11.6 mi (18.7 km) upstream from Buffalo Bayou.

DRAINAGE AREA.--94.9 mi^2 (245.8 km^2). Prior to October 1976, 88.4 mi^2 (229.0 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to current year.

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.16 ft (2.182 m) National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence. Prior to June 20, 1936, nonrecording gage, and June 20, 1936, to Nov. 25, 1959, water-stage recorder at site 0.8 mi (1.3 km) downsteam at same datum.

REMARKS.--Water-discharge records good except those for period of no gage-height record, which are poor. No diversion above station. Low flow is mostly sewage effluent from Houston suburbs.

AVERAGE DISCHARGE.--42 years, 110 ft^3/s (3.115 m^3/s), 79,700 acre-ft/yr (98.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,000 ft^3/s (821 m^3/s) June 15, 1976, gage height, 52.13 ft (15.889 m); minimum daily, 0.1 ft^3/s (0.003 m^3/s) Oct. 11, 12, 1937, Mar. 14, Apr. 1, 1958.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1911, 56.0 ft (17.07 m) in June 1919 before channel rectification, former site, from information by engineer for city of Houston; maximum discharge, that of June 15, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,500 ft^3/s (127 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Jan. 11	2030	5,130	145	34.62	10.552	June 7	unknown	*6,260	177	35.90	10.942
Jan. 16	1500	5,800	164	35.39	10.787	aAug. 6	1500	1,210	34.3	29.44	8.973
aMay 29	2330	5,240	148	34.75	10.592	aAug. 30	1430	2,280	64.6	31.12	9.485

a Water-quality samples were obtained during this flood event.

Minimum daily discharge, 68 ft^3/s (1.93 m^3/s) May 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	369	97	93	205	74	72	77	97	150	76	127
2	106	228	81	141	124	74	72	88	264	100	76	88
3	97	88	76	95	115	76	73	222	500	80	74	102
4	92	80	74	87	102	75	76	88	150	75	74	99
5	92	79	75	86	97	79	73	77	100	72	73	85
6	90	80	74	86	93	76	75	68	300	71	293	82
7	91	79	74	152	554	145	75	70	2500	71	128	109
8	96	531	73	141	1090	82	73	70	400	71	201	116
9	108	181	71	90	398	71	72	70	150	72	110	103
10	93	89	71	87	233	70	80	75	100	77	79	605
11	317	78	72	1270	148	70	97	72	80	135	74	527
12	94	74	75	651	1040	73	151	70	70	107	73	185
13	83	73	839	175	550	73	99	70	150	78	114	339
14	83	75	221	108	214	72	78	70	80	79	89	293
15	82	75	101	99	134	73	72	70	70	75	77	114
16	79	73	84	1700	118	70	73	75	70	75	76	108
17	82	200	82	734	709	69	75	72	70	77	76	91
18	81	170	80	901	364	69	76	72	70	78	74	87
19	83	77	80	2020	163	70	73	73	70	186	74	85
20	83	74	81	446	119	70	71	88	70	111	77	100
21	82	436	82	251	101	70	71	74	70	84	87	340
22	123	180	85	189	89	71	114	73	70	207	85	149
23	98	92	88	219	86	71	183	72	75	94	87	99
24	129	77	87	350	81	177	88	71	72	82	80	82
25	87	71	84	288	79	78	78	73	70	80	101	80
26	80	71	86	166	78	73	75	94	70	77	81	79
27	78	69	88	122	80	75	73	89	70	143	78	80
28	77	73	93	104	82	78	72	71	70	172	79	78
29	76	319	142	97	---	76	70	316	100	85	79	79
30	76	172	102	100	---	75	72	690	130	81	427	76
31	78	---	89	146	---	73	---	105	---	85	251	---
TOTAL	3010	4333	3507	11194	7246	2448	2502	3365	6158	3030	3423	4587
MEAN	97.1	144	113	361	259	79.0	83.4	109	205	97.7	110	153
MAX	317	531	839	2020	1090	177	183	690	2500	207	427	605
MIN	76	69	71	86	78	69	70	68	70	71	73	76
AC-FT	5970	8590	6960	22200	14370	4860	4960	6670	12210	6010	6790	9100
(††)	1.79	3.66	1.67	6.65	3.27	.68	1.22	2.38	5.08	2.57	2.25	4.90

CAL YR 1977 TOTAL 52743 MEAN 145 MAX 2310 MIN 62 AC-FT 104600 †† 33.46
WTR YR 1978 TOTAL 54803 MEAN 150 MAX 2500 MIN 68 AC-FT 108700 †† 36.12

†† Weighted-mean rainfall, in inches, based on eight rain gages.
NOTE.--No gage-height record June 3 to July 5.

08075000 BRAYS BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
DEC										
05...	1135	77	830	8.2	24.0	20	10	11.1	135	--
MAR										
01...	1310	76	868	7.9	21.0	20	10	11.1	128	14
MAY										
02...	0905	70	822	7.4	24.5	20	40	6.6	80	13
30...	0950	340	341	6.5	25.0	60	150	8.4	104	15
JUL										
17...	1215	81	758	7.7	30.5	20	20	10.1	135	11
AUG										
07...	1145	122	615	7.4	29.0	40	30	7.8	103	13
31...	1840	374	363	7.5	26.5	120	110	6.6	34	18

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
DEC										
05...	94	4	18	--	--	--	--	--	--	--
MAR										
01...	2100	10	44	170	0	51	11	110	3.6	6.9
MAY										
02...	1800	44	30	170	0	50	11	110	3.7	7.4
30...	300000	39000	6900	--	--	--	--	--	--	--
JUL										
17...	2000	12	8	140	0	42	8.4	100	3.7	6.2
AUG										
07...	290000	45000	950	130	0	39	7.4	76	2.9	5.3
31...	560000	200000	5700	100	0	33	4.6	33	1.4	3.9

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
DEC										
05...	--	--	--	--	--	--	--	18	5	1.5
MAR										
01...	300	0	40	80	.7	20	468	22	19	1.3
MAY										
02...	270	0	40	84	.4	22	458	19	10	1.1
30...	--	--	--	--	--	--	--	388	56	1.0
JUL										
17...	260	0	44	73	.6	23	426	32	22	1.7
AUG										
07...	190	0	41	58	.5	14	335	42	7	1.1
31...	130	0	23	26	.3	12	200	302	112	.74

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
DEC									
05...	.59	2.1	7.0	2.2	9.2	3.6	7.6	--	.30
MAR									
01...	.56	1.9	5.4	1.4	6.8	2.9	11	3	.40
MAY									
02...	.39	1.5	5.1	.50	5.6	4.6	8.5	--	.50
30...	.17	1.2	1.2	1.5	2.7	.93	14	0	.40
JUL									
17...	.37	2.1	2.2	2.8	5.0	2.4	7.2	4	.30
AUG									
07...	.25	1.3	2.1	1.0	3.1	1.7	7.9	2	.30
31...	.14	.88	1.4	1.2	2.6	1.6	18	--	.10

SAN JACINTO RIVER BASIN

08075000 BRAYS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR 01...	1310	4	100	1	0	5	20
JUL 17...	1215	6	400	0	0	3	20
AUG 07...	1145	47	200	0	0	2	[illegible]

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR 01...	0	40	.0	1	0	30
JUL 17...	0	10	.0	1	0	10
AUG 07...	0	0	.0	1	0	20

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
MAR 01...	1310	.0	.00	.00	.2	.00	.00	.00	.43
MAY 30...	0950	.1	.00	.00	.2	.00	.00	.00	.08
JUL 17...	1215	.0	.00	.00	.0	.00	.00	.00	.71
AUG 07...	1145	.0	.00	.00	.1	.00	.00	.00	.71

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
MAR 01...	.02	.00	.00	.00	.00	.01	.00	.00	.00
MAY 30...	.02	.00	.00	.00	.00	.01	.02	.00	.00
JUL 17...	.01	.00	.00	.00	.00	.01	.06	.00	.00
AUG 07...	.01	.00	.00	.00	.00	.01	.19	.00	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR 01...	.00	--	.00	0	.00	.00	.00	.00
MAY 30...	.00	.00	.00	0	.00	.02	.03	.06
JUL 17...	.00	.00	.00	0	.00	.04	.02	.00
AUG 07...	.00	.00	.02	0	.00	.00	1.1	.02

SAN JACINTO RIVER BASIN

08075100 BRAYS BAYOU AT SCOTT STREET, HOUSTON, TX
(Low-flow partial-record station)

LOCATION.--Lat 29°42'35", long 95°21'23", Harris County, Hydrologic Unit 12040104, at bridge on Scott Street in Houston.

DRAINAGE AREA.--106 mi² (275 km²).

PERIOD OF RECORD.--Occasional discharge measurements and water-quality data: May 1971 to current year.

DISCHARGE AND WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
DEC										
05...	1020	72	851	7.8	23.0	30	40	6.8	81	--
JUN										
07...	1600	1850	265	7.3	24.5	160	280	6.1	74	14
AUG										
31...	1720	500	468	7.4	26.5	100	90	6.2	78	29

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
DEC										
05...	1000	24	42	--	--	--	--	--	--	--
JUN										
07...	1100000	540000	38000	--	--	--	--	--	--	--
AUG										
31...	120000	7700	7300	110	0	35	5.5	50	2.1	4.5

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
DEC										
05...	--	--	--	--	--	--	--	73	15	1.3
JUN										
07...	--	--	--	--	--	--	--	812	132	.54
AUG										
31...	160	0	30	39	.5	14	257	216	48	1.0

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
DEC									
05...	1.1	2.4	3.5	1.4	4.9	4.1	6.3	--	.60
JUN									
07...	.07	.61	.70	1.7	2.4	.78	17	--	.00
AUG									
31...	.19	1.2	1.7	1.4	3.1	1.6	21	11	.10

08075100 BRAYS BAYOU AT SCOTT STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
AUG									
31...	1720	.0	.00	.00	.2	.00	.00	.01	.42

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
AUG									
31...	.14	.00	.00	.00	.05	.01	.03	.00	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
AUG								
31...	.00	.00	.00	0	.00	.00	.13	.04

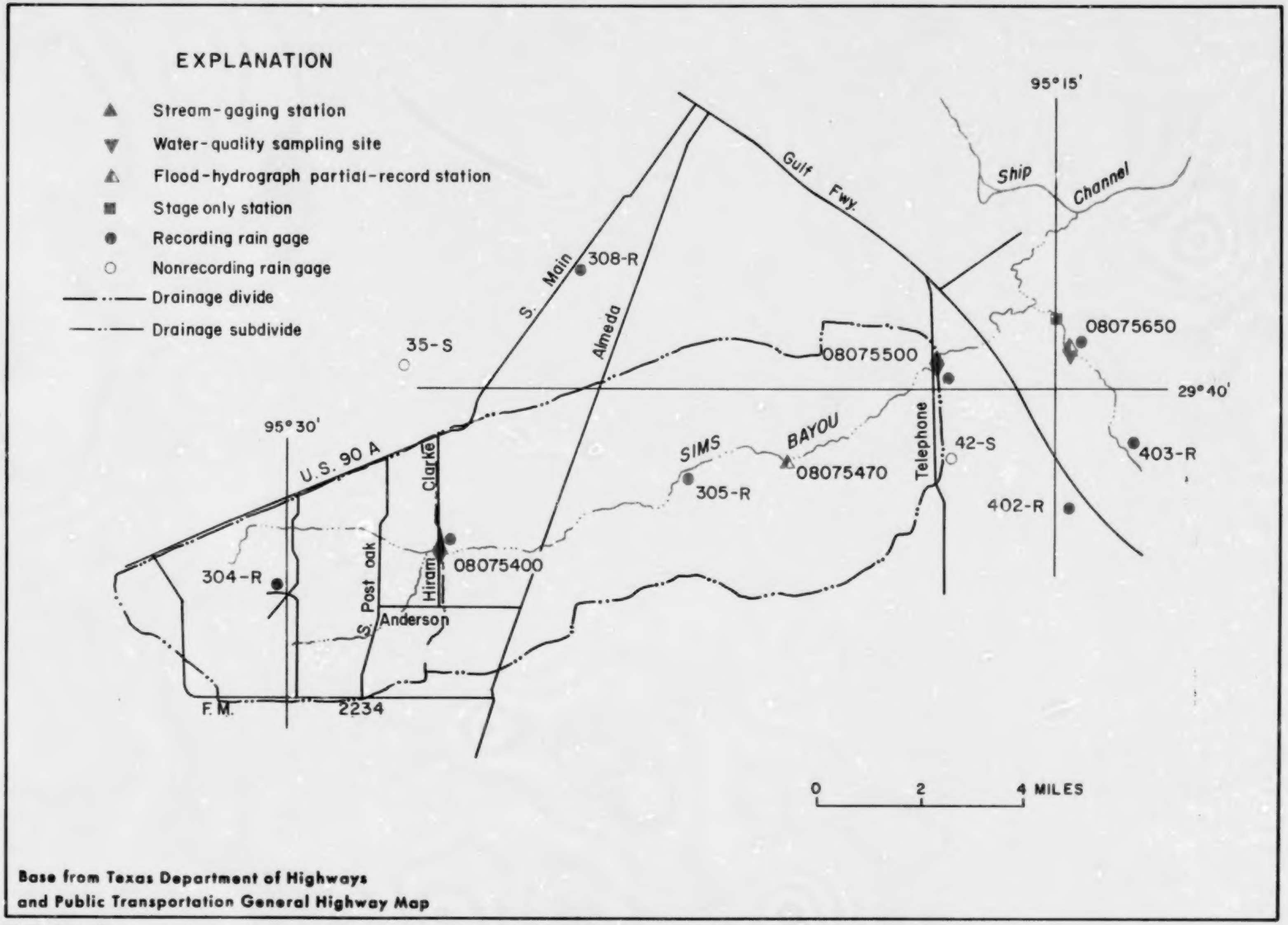
SIMS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Sims Bayou drainage basin are shown on figure 10.

Flood-hydrograph partial-record and rainfall record station Sims Bayou at Martin Luther King Blvd., Houston, Tex. (08075470) was put into operation Oct. 1, 1977, by the U.S. Geological Survey.

Weighted-mean rainfall in the drainage basin, based on six rain gages, for the 1978 water year was 31.9 inches, or 16.3 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

No storms were analyzed for the 1978 water year.



Base from Texas Department of Highways
and Public Transportation General Highway Map

FIGURE 10.- Locations of data-collection sites in and near the Sims Bayou drainage basin

SAN JACINTO RIVER BASIN

08075400 SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TX

LOCATION.--Lat 29°37'07", long 95°26'45", Harris County, Hydrologic Unit 12040104, on right bank at downstream side of bridge on Hiram Clarke Street in southwest Houston, 12.7 mi (20.4 km) upstream from gage Sims Bayou at Houston, and 19.7 mi (31.7 km) upstream from mouth.

DRAINAGE AREA.--20.2 mi^3 (52.3 km^3).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records poor. During the current year, all peak discharges above 250 ft^3/s (7.08 m^3/s) are estimated, because of construction activity and rectification in the vicinity of the gage. No know diversion above station. Low flow is partly sustained by sewage effluent from Houston suburbs. Records furnished by Houston Lighting and Power Co. show that during the current year, about 420 acre-ft (0.518 hm^3) of ground-water was used for cooling purposes then released to the bayou about 300 ft (90 m) upstream from gage. Recording rain gage located at station.

AVERAGE DISCHARGE.--14 years, 26.5 ft^3/s (0.750 m^3/s), 19,200 acre-ft/yr (23.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 4,500 ft^3/s (127 m^3/s) June 15, 1976, elevation, 57.12 ft (17.410 m); minimum daily, 1.5 ft^3/s (0.042 m^3/s) July 26, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft^3/s (14.2 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Elevation (ft)	Elevation (m)
Jan. 11	2200	*800	22.7	44.50	13.564	Feb. 12	1945	564	16.0	43.92	13.387
aJan. 16	1700	*800	22.7	44.50	13.564	aAug. 6	1800	120	3.40	38.73	11.805
Jan. 19	unknown	700	19.8	unknown	-	aAug. 30	2230	151	4.28	39.09	11.915
Feb. 8	unknown	600	17.0	unknown	-						

a Water-quality samples were obtained during this flood event.

Minimum daily discharge, 4.0 ft^3/s (0.11 ft^3/s) Oct. 18-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	40	15	6.4	35	11	8.4	8.1	8.4	18	11	33
2	12	60	12	7.5	25	11	8.7	9.0	11	14	11	15
3	10	25	10	6.7	22	12	7.8	15	77	11	12	14
4	9.0	15	8.0	6.2	19	11	8.4	9.0	23	9.4	11	13
5	8.0	12	8.0	6.4	17	12	9.9	7.8	12	8.9	11	13
6	7.0	10	11	5.9	17	12	8.4	8.1	13	9.1	52	13
7	7.0	10	9.0	11	70	12	8.2	9.4	104	8.6	33	16
8	8.0	40	8.0	16	292	12	8.6	9.4	24	8.4	20	18
9	7.0	30	7.0	7.5	70	12	7.3	8.4	13	8.6	23	15
10	12	15	6.5	6.4	49	12	8.7	7.2	12	8.5	15	53
11	25	12	6.0	208	32	12	8.6	7.5	11	9.1	13	126
12	12	10	6.0	287	151	14	13	8.1	10	9.1	13	29
13	9.0	9.0	25	41	148	12	12	10	13	9.1	13	36
14	6.0	8.5	30	27	36	11	8.8	9.0	18	8.9	12	70
15	5.0	8.0	13	21	26	11	8.8	8.1	11	8.5	11	22
16	4.5	7.5	9.7	338	23	11	8.2	7.2	9.5	9.0	12	16
17	4.2	7.0	8.4	221	37	12	8.3	8.1	9.2	8.8	12	14
18	4.0	12	8.7	140	41	12	9.2	7.9	9.3	9.2	13	13
19	4.0	10	8.4	400	23	10	8.5	7.9	9.1	14	13	13
20	4.0	8.0	7.8	92	18	8.6	8.2	8.8	9.0	12	12	17
21	4.0	25	8.1	46	15	8.9	8.1	8.8	8.6	12	12	18
22	12	18	8.4	37	14	12	13	8.0	7.6	13	12	15
23	10	12	8.7	40	13	10	36	7.7	7.6	12	13	16
24	8.0	14	7.2	52	12	16	14	7.7	8.1	12	12	14
25	7.0	12	7.5	41	13	11	9.1	7.9	8.6	11	12	12
26	6.0	10	6.7	29	13	9.7	8.1	8.4	7.8	11	12	12
27	5.5	9.0	7.0	22	12	8.7	7.5	8.1	7.3	24	12	12
28	5.0	12	7.2	19	12	8.7	7.5	7.7	8.2	30	11	11
29	5.0	100	16	18	---	8.7	8.7	14	12	18	12	12
30	5.0	40	8.7	18	---	8.7	8.1	34	15	12	38	11
31	5.0	---	6.2	21	---	8.4	---	11	---	12	95	---
TOTAL	238.2	601.0	309.2	2198.0	1255	341.4	298.1	297.3	497.3	369.2	564	692
MEAN	7.68	20.0	9.97	70.9	44.8	11.0	9.94	9.59	16.6	11.9	18.2	23.1
MAX	25	100	30	400	292	16	36	34	104	30	95	126
MIN	4.0	7.0	6.0	5.9	12	8.4	7.3	7.2	7.3	8.4	11	11
AC-FT	472	1190	613	4360	2490	677	591	590	986	732	1120	1370
(††)	1.40	4.14	1.37	6.07	2.70	.52	2.11	1.78	4.58	2.33	4.36	3.44

CAL YR 1977 TOTAL 7209.8 MEAN 19.8 MAX 551 MIN 4.0 AC-FT 14300 †† 31.69
WTR YR 1978 TOTAL 7660.7 MEAN 21.0 MAX 400 MIN 4.0 AC-FT 15190 †† 34.80

†† Weighted-mean rainfall, in inches, based on two rain gages.

NOTE.--No gage-height record Oct. 1 to Dec. 6, Dec. 9-14, 21, 22, Jan. 17, 19, 20, Feb. 5, 7, 8. All discharges above 250 ft^3/s are estimated.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
DEC										
28...	1045	6.7	870	7.8	16.0	10	10	9.6	100	4.7
JAN										
16...	1040	19	966	7.9	17.0	30	30	9.7	103	3.5
MAR										
01...	1225	11	904	8.1	19.0	20	20	9.1	101	4.8
MAY										
02...	1100	8.4	930	7.3	25.0	20	40	8.6	106	2.9
JUN										
06...	0920	11	716	6.7	28.0	40	40	6.3	81	4.1
JUL										
17...	1325	8.7	848	7.7	32.0	20	10	10.4	142	6.2
31...	1005	13	690	7.5	26.5	50	35	7.4	94	5.2
AUG										
07...	1305	26	505	7.3	29.0	60	60	6.6	87	7.5
31...	1200	72	369	6.7	26.5	120	200	6.3	80	8.4

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
DEC										
28...	12	1	4	130	0	39	8.8	130	4.9	6.8
JAN										
16...	18	2	6	--	--	--	--	--	--	--
MAR										
01...	16000	1500	850	180	0	51	13	120	3.9	5.8
MAY										
02...	1100	1	4	140	0	40	10	150	5.5	7.6
JUN										
06...	3100	30	6	130	0	38	8.8	97	3.7	5.7
JUL										
17...	520	24	22	130	0	38	8.2	130	5.0	7.4
31...	10000	500	390	120	0	35	7.4	97	3.9	7.0
AUG										
07...	4300	58	62	96	0	29	5.8	67	3.0	4.8
31...	130000	4900	9900	88	0	28	4.4	38	1.8	4.0

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
DEC										
28...	290	0	45	85	.6	26	484	17	2	7.6
JAN										
16...	--	--	--	--	--	--	--	46	14	3.5
MAR										
01...	330	0	48	90	.6	20	511	27	13	3.0
MAY										
02...	350	0	45	92	.4	24	542	22	13	.35
JUN										
06...	240	0	42	70	.6	21	402	61	11	.82
JUL										
17...	280	0	44	88	.6	27	482	33	20	3.8
31...	230	0	34	62	.4	21	377	51	20	3.3
AUG										
07...	180	0	22	47	.5	14	279	197	36	.37
31...	120	0	20	33	.4	9.8	197	344	68	1.8

SAN JACINTO RIVER BASIN

08075400 SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
DEC									
28...	.09	--	1.1	1.7	--	6.4	4.4	--	.30
JAN									
16...	.05	3.5	1.8	1.4	3.2	4.6	6.0	--	.30
MAR									
01...	.04	3.0	.58	1.4	2.0	4.3	12	2	.30
MAY									
02...	.06	.41	1.6	1.1	2.7	5.6	7.6	--	.30
JUN									
06...	.15	.97	.93	1.2	2.1	3.3	12	2	.20
JUL									
17...	.14	3.9	.14	2.4	2.5	5.3	5.3	2	.40
31...	.12	3.4	.75	1.1	1.8	6.1	6.5	4	.30
AUG									
07...	.08	.45	1.6	1.5	3.1	2.0	14	4	.40
31...	.07	1.9	.26	1.1	1.4	1.4	15	--	.00

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAR							
01...	1225	4	200	1	10	5	10
JUN							
06...	0920	12	300	1	0	2	30
JUL							
17...	1325	8	400	0	0	6	10
31...	1005	8	100	0	10	5	20
AUG							
07...	1305	11	100	0	0	4	60

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAR						
01...	0	60	.0	0	0	20
JUN						
06...	0	20	.2	0	0	10
JUL						
17...	0	0	.0	0	0	10
31...	0	20	.0	1	0	20
AUG						
07...	0	10	.0	1	0	20

SAN JACINTO RIVER BASIN

08075400 SIMS BAYOU AT HIRAM CLARKE STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
MAR									
01...	1225	.0	.00	.00	.1	.00	.00	.00	.06
JUN									
06...	0920	.0	.00	.00	.0	.00	.00	.00	.20
JUL									
17...	1325	.0	.00	.00	.0	.00	.00	.00	.14
31...	1005	.0	.00	.02	.0	.00	.00	.00	.31
AUG									
07...	1305	.0	.00	.03	.1	.00	.00	.00	1.4

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
MAR									
01...	.02	.00	.00	.00	.00	.00	.00	.00	.00
JUN									
06...	.01	.00	.00	.00	.00	.01	.00	.00	.00
JUL									
17...	.01	.00	.00	.00	.00	.01	.00	.00	.00
31...	.02	.00	.00	.00	.00	.00	.02	.02	.00
AUG									
07...	.00	.00	.00	.00	.00	.01	.02	.00	.01

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAR								
01...	.00	--	.00	0	.00	.00	.00	.00
JUN								
06...	.00	.00	.00	0	.00	--	--	--
JUL								
17...	.00	.00	.00	0	.00	.03	.00	.00
31...	.00	.00	.00	0	.00	.02	.03	.00
AUG								
07...	.00	.00	.00	0	.00	.00	.05	.00

08075470 SIMS BAYOU AT MARTIN LUTHER KING BLVD., HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°38'42", long 95°20'13", Harris County, Hydrologic Unit 12040104, at downstream side of upstream bridge on Martin Luther King Boulvard (formerly South Park Boulevard), 1.6 miles upstream from Atchison, Topeka, and Santa Fe Railway Co. bridge in south Houston.

DRAINAGE.--48.4 mi^2.

PERIOD OF RECORD.--October 1977 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment, unadjusted for land-surface subsidence.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (est.) 1,500 ft^3/s Jan. 19, 1978 (elevation unknown); minimum not determined.

EXTREMES OUTSIDE PERIOD OF RECORD.--Peak stage of 38.28 ft (discharge unknown on June 15, 1976. This same storm produced the largest peak for the period of record (1952-78) at the gaging station Sims Bayou at Houston (08075500).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,300 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Jan. 11	unknown	Est. 1,300	unknown
Jan. 16	unknown	Est. 1,300	unknown
Jan. 19	unknown	Est.*1,500	unknown
Feb. 8	0800	1,360	20.60

Minimum discharge not determined.

SAN JACINTO RIVER BASIN

08075500 SIMS BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°40'27", long 95°17'21", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on State Highway 35 in southeast Houston and 7.0 mi (11.3 km) upstream from mouth.

DRAINAGE AREA.--63.0 mi² (163.2 km²). Prior to Oct. 1, 1976, 64.0 mi² (165.8 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year. Prior to Oct. 1, 1976, 64.0 mi² (165.8 km²).

REVISED RECORDS.--WSP 1922: 1960. WDR TX-76-2: 1975(M).

GAGE.--Water-stage recorder. Datum of gage is 3.09 ft (0.942 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records fair except those for January and February, which are poor. Low flow is largely sustained by sewage effluent from Houston suburbs and industrial wastes.

AVERAGE DISCHARGE.--26 years, 74.2 ft³/s (2.101 m³/s), 53,760 acre-ft/yr (66.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft³/s (317 m³/s) June 9, 1975, and June 16, 1976; maximum gage height, 33.17 ft (10.110 m) June 9, 1975; minimum daily, 0.9 ft³/s (0.025 m³/s) Aug. 7, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,600 ft³/s (45.3 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
aDec. 13	b1800	b500	14.2	b13.4	4.08	Jan. 19	unknown	*b2,000	56.6	unknown	
Jan. 11	unknown	b1,600	45.3	unknown		aAug. 9	0600	88	2.49	9.77	2.978
Jan. 16	unknown	b1,800	51.0	unknown		aAug. 31	0930	176	4.98	10.83	3.301

a Water-quality samples were obtained during this flood event.
b Estimate.

Minimum daily discharge, 27 ft³/s (0.76 m³/s) Dec. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	128	77	41	117	46	35	34	38	47	44	118
2	64	182	55	55	79	46	36	34	37	41	40	57
3	57	75	46	48	70	45	35	65	262	39	38	50
4	42	57	43	42	64	43	35	41	128	33	36	47
5	41	53	42	40	56	43	35	36	46	31	36	46
6	42	50	38	40	52	43	34	35	47	32	59	48
7	43	48	27	48	192	56	34	39	615	31	109	66
8	45	127	58	75	970	41	36	38	121	31	58	74
9	49	115	41	50	370	42	40	35	49	32	159	70
10	46	63	42	40	220	42	39	34	39	34	87	171
11	85	54	45	600	150	42	42	34	36	35	41	347
12	61	51	45	700	450	41	67	34	34	43	38	136
13	45	50	170	130	350	42	60	35	44	42	42	97
14	46	50	110	66	138	42	39	34	60	38	41	166
15	46	52	57	53	85	39	39	32	37	35	38	87
16	44	51	45	1000	74	37	37	30	31	34	39	60
17	43	113	43	600	125	37	35	30	33	36	38	49
18	44	236	41	400	153	43	35	32	39	34	38	47
19	44	68	41	1200	80	42	34	35	35	38	41	45
20	45	55	41	300	62	40	33	33	30	53	41	130
21	52	126	42	150	55	38	34	37	30	48	42	79
22	60	70	44	115	48	35	36	32	28	77	42	56
23	63	55	41	120	46	35	116	32	28	58	42	65
24	53	56	41	157	45	86	61	31	29	47	40	48
25	52	51	38	141	46	44	39	30	29	44	41	44
26	50	49	38	87	47	40	37	34	29	41	42	42
27	51	51	38	68	46	37	33	33	60	106	43	44
28	50	52	40	61	47	36	33	31	39	99	44	41
29	50	505	77	57	---	37	33	101	38	78	45	41
30	51	229	58	58	---	37	35	195	51	76	51	40
31	52	---	42	68	---	35	---	52	---	49	140	---
TOTAL	1559	2922	1606	6610	4237	1312	1237	1328	2122	1462	1635	2411
MEAN	50.3	97.4	51.8	213	151	42.3	41.2	42.8	70.7	47.2	52.7	80.4
MAX	85	505	170	1200	970	86	116	195	615	106	159	347
MIN	41	48	27	40	45	35	33	30	28	31	36	40
AC-FT	3090	5800	3190	13110	8400	2600	2450	2630	4210	2900	3240	4780
(††)	1.09	4.37	1.15	5.72	2.67	.56	1.38	1.84	3.94	2.56	2.69	3.94

CAL YR 1977 TOTAL 27742 MEAN 76.0 MAX 1860 MIN 26 AC-FT 55030 †† 31.63
WTR YR 1978 TOTAL 28441 MEAN 77.9 MAX 1200 MIN 27 AC-FT 56410 †† 31.91

†† Weighted-mean rainfall, in inches, based on six rain gages.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
DEC										
14...	1345	93	1000	7.9	17.0	40	300	7.0	74	24
APR										
26...	1300	37	1420	7.6	23.0	30	80	2.4	29	11
JUN										
06...	1050	37	770	6.4	28.0	40	40	1.1	14	13
JUL										
17...	0905	36	1560	7.4	30.0	30	40	1.9	25	8.4
AUG										
09...	1000	77	1590	7.4	28.0	60	40	1.3	17	8.7
28...	1315	44	672	7.2	28.0	30	20	4.0	51	10
31...	1330	159	553	6.8	26.5	60	300	2.4	30	17
SEP										
27...	1230	45	728	7.5	25.5	20	20	4.1	51	13

DATE	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
DEC										
14...	890000	110000	11000	--	--	--	--	--	--	--
APR										
26...	400000	5100	950	150	0	45	10	240	8.4	5.1
JUN										
06...	460000	34000	720	140	0	41	6.9	100	3.7	4.8
JUL										
17...	400000	32000	700	140	0	43	8.0	280	10	4.8
AUG										
09...	460000	36000	650	160	0	48	9.3	270	9.3	5.1
28...	160000	11000	500	110	0	33	6.5	96	4.0	4.4
31...	440000	34000	7700	100	0	32	5.1	73	3.2	4.8
SEP										
27...	190000	50000	1000	110	0	33	6.9	110	4.5	4.5

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
DEC										
14...	--	--	--	--	--	--	--	544	84	1.1
APR										
26...	250	0	320	97	.5	16	857	143	270	.38
JUN										
06...	210	0	53	93	.4	16	421	73	12	.18
JUL										
17...	210	0	430	90	.3	13	973	57	21	.80
AUG										
09...	200	0	33	370	.5	13	848	97	19	.70
28...	210	0	38	69	.4	14	365	25	1	.91
31...	140	0	54	65	.5	9.5	313	988	168	1.0
SEP										
27...	220	0	43	85	.5	15	407	46	22	1.1

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DEC									
14...	.06	1.2	.65	1.5	2.1	2.3	12	--	.40
APR									
26...	.33	.71	2.7	1.4	4.1	3.2	9.6	--	1.0
JUN									
06...	.36	.54	2.5	13	15	3.7	29	4	.10
JUL									
17...	.18	.98	1.0	1.4	2.4	1.9	5.9	2	.30
AUG									
09...	.20	.98	1.5	1.3	2.8	2.0	9.2	--	.40
28...	.29	1.2	1.5	1.0	2.5	3.4	4.8	--	.20
31...	.06	1.9	.62	1.4	2.0	1.0	17	--	.00
SEP									
27...	.34	1.4	.95	.85	1.8	2.3	11	4	.50

08075500 SIMS BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
JUN 06...	1050	19	200	1	0	12	40
JUL 17...	0905	5	--	0	10	10	40
SEP 25...	1230	12	100	1	0	7	<10

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
JUN 06...	0	0	.2	0	0	10
JUL 17...	0	0	.0	0	0	10
SEP 25...	0	2	.0	0	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
JUN 06...	1050	.0	.00	.00	.3	.00	.01	.00	.39
JUL 17...	0905	.0	.00	.00	.1	.00	.00	.00	.22
SEP 25...	1230	.0	.00	.00	.2	.00	.00	.00	.15

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
JUN 06...	.01	.00	.00	.00	.00	.00	.23	.03	.00
JUL 17...	.01	.00	.00	.00	.00	.00	.01	.00	.00
SEP 25...	.01	.00	.00	.00	.00	.00	.01	.01	.00

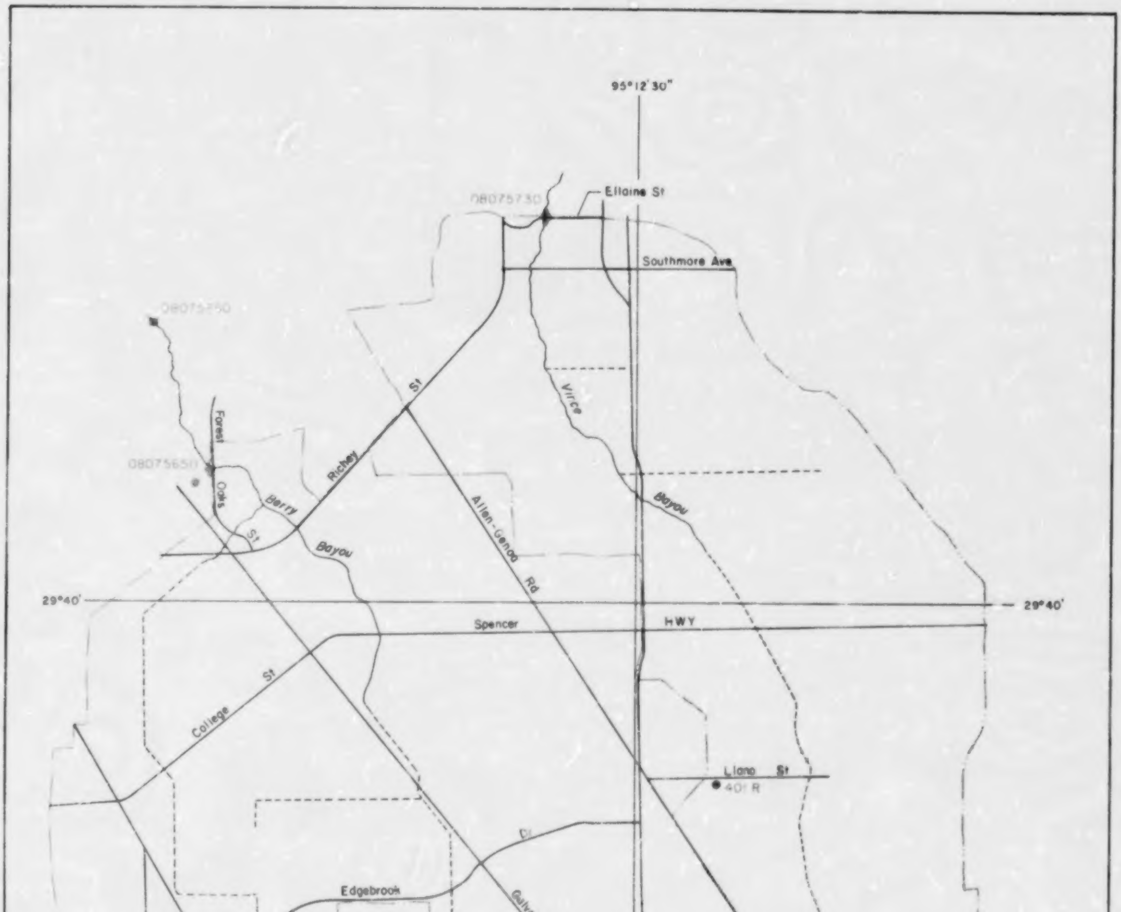
DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 06...	.00	.00	.00	0	.00	.02	.00	.03
JUL 17...	.00	.00	.00	0	.00	.05	.00	.00
SEP 25...	.10	.00	.00	0	.00	.00	.00	.00

BERRY BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Berry Bayou drainage basin are shown on figure 11.

Weighted-mean rainfall over the drainage basin for the 1978 water year was not determined.

The storm of June 27 was selected for analysis at the Gilpin Street (08075550) gaging station for the 1978 water year.



Base from U.S. Geological Survey topographic quadrangles

FIGURE 11.- Location of data-collection sites in and near the Berry Bayou and Vince Bayou drainage basins

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 8.--Storm rainfall-runoff data, 1978 water year, Berry Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Berry Bayou at Gilpin Street, Houston, TX (Drainage area--2.87 mi^2)								
June 27, 1978	1.5	3.60	0.96	1.56	2.40	0.68	0.19	260

08075550 BERRY BAYOU AT GILPIN STREET, HOUSTON, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°38'32", long 95°13'22", Harris County, Hydrologic Unit 12040104, at bridge on Gilpin Street in southeast Houston.

DRAINAGE AREA.--2.87 mi^2. Prior to Oct. 1, 1973, 3.26 mi^2.

PERIOD OF RECORD.--April 1964 to current year.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to April 26, 1978 a flood hydrograph and rainfall recorder (type SR) and a crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment, unadjusted for land surface subsidence.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 738 ft^3/s May 10, 1968: Maximum elevation, 35.45 ft, Aug. 31, 1974. Minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
June 27	1715	*260	33.55

Minimum discharge not determined.

STA. NO. 08075550

STORM RAINFALL AND RUNOFF RECORD

1978 WATER YEAR

BERRY BAYOU AT GILPIN STREET, HOUSTON, TEX.

STORM OF JUNE 27, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
	5550	4028								
JUNE 27										
0000	0.0	0.0						0.0	3.0	0.0095
1145	0.0	0.0						0.0	3.0	0.0192
1200	0.24	0.0						0.20	5.0	0.0199
1215	0.24	0.09						0.22	5.0	0.0206
1230	0.24	0.15						0.23	10.0	0.0219
1245	0.36	0.15						0.33	15.0	0.0331
1515	0.36	0.15						0.33	20.0	0.0479
1530	0.72	0.76						0.73	25.0	0.0496
1545	1.44	1.10						1.39	32.0	0.0539
1600	2.04	1.47						1.95	56.0	0.0615
1615	2.29	1.53						2.17	94.0	0.0742
1630	2.89	1.54						2.64	125.0	0.0910
1645	3.84	1.55						3.50	207.0	0.1190
1700	3.96	1.55						3.60	254.0	0.1533
1715	3.96	1.55						3.60	260.0	0.1884
1730	3.96	1.55						3.60	252.0	0.2224
1745	3.96	1.55						3.60	236.0	0.2542
1800	3.96	1.55						3.60	214.0	0.2976
1830	3.96	1.55						3.60	172.0	0.3440
1900	3.96	1.55						3.60	142.0	0.3823
1930	3.96	1.55						3.60	118.0	0.4142
2000	3.96	1.55						3.60	106.0	0.4571
2100	3.96	1.55						3.60	89.0	0.5052
2200	3.96	1.55						3.60	77.0	0.5675
2400	3.96	1.55						3.60	57.0	0.6137
JUNE 28										
0000	3.96	1.55						3.60	57.0	0.6137
0200	3.96	1.55						3.60	39.0	0.6607
0300	3.96	1.55						3.60	32.0	0.6715
0400	3.96	1.55						3.60	25.0	0.6782
0600	3.96	1.55						3.60	15.0	0.6823
0800	3.96	1.55						3.60	10.0	0.6836
1200	3.96	1.55						3.60	5.0	0.6843
2400	3.96	1.55						3.60	4.0	0.6848

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°40'35", long 95°14'37", Harris County, Hydrologic Unit 12040104, at gaging station at Forest Oaks Street Bridge in southeast Houston, 0.8 mi (1.3 km) upstream from auxiliary gage at mouth of Berry Creek, and 1.7 mi (2.7 km) upstream from Sims Bayou.

DRAINAGE AREA (revised).--10.7 mi^2 (27.7 km^2). Prior to Oct. 1, 1973, 11.1 mi^2 (28.7 km^2). Oct. 1, 1976, to Dec. 31, 1977, 10.1 mi^2 (26.2 km^2). Drainage ditch relocations resulted in drainage area changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year. April 1964 to September 1966 operated as a daily discharge station.

GAGE.--Water-stage recorder. Datum of gage is 2.72 ft (0.829 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment. Auxiliary water-stage recorder 0.8 mi (1.3 km) downstream at same datum. June 25, 1964, to Jan. 11, 1965, auxiliary nonrecording gage 0.8 mi (1.3 km) downstream at same datum.

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1978."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,080 ft^3/s (144 m^3/s) June 9, 1975; maximum gage height, 21.69 ft (6.6111 m) June 9, 1975.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft^3/s (22.7 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
[a]Jan. 16	1500	801	22.7	--	--
	1530	--	--	10.54	3.213
June 27	1800	*1,010	28.6	11.42	3.481

[a] Water-quality samples were obtained during this flood event.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year. Water temperatures: April 1964 to current year.

WATER QUALITY DATA. WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW. INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN. DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND. BIO-CHEM-ICAL. 5 DAY (MG/L)
DEC										
28...	1310	8.0	966	7.6	16.5	20	20	6.9	73	16
JAN										
16...	1438	740	244	8.1	15.0	140	220	8.7	89	8.1
16...	1725	530	199	7.8	15.0	160	150	8.0	82	8.4
17...	0920	50	416	7.6	9.0	160	60	7.7	69	18

DATE	COLI-FORM. TOTAL. IMMED. (COLS. PER 100 ML)	COLI-FORM. FECAL. 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL. KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS. NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM. DIS-SOLVED (MG/L AS MG)	SODIUM. DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM. DIS-SOLVED (MG/L AS K)
DEC										
28...	380000	61000	17000	93	0	27	6.2	170	7.7	6.2
JAN										
16...	520000	120000	65000	61	0	19	3.3	20	1.1	2.6
16...	820000	140000	39000	--	--	--	--	--	--	--
17...	580000	120000	35000	--	--	--	--	--	--	--

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE. DIS-SOLVED (MG/L AS CL)	FLUO-RIDE. DIS-SOLVED (MG/L AS F)	SILICA. DIS-SOLVED (MG/L AS SIO2)	SOLIDS. SUM OF CONSTI-TUENTS. DIS-SOLVED (MG/L)	SOLIDS. RESIDUE AT 105 DEG. C. SUS-PENDED (MG/L)	SOLIDS. VOLA-TILE. SUS-PENDED (MG/L)	NITRO-GEN. NITRATE TOTAL (MG/L AS N)
DEC										
28...	320	0	37	110	1.4	13	529	28	11	3.3
JAN										
16...	76	0	16	25	.2	5.1	129	596	80	.41
16...	--	--	--	--	--	--	--	292	44	.26
17...	--	--	--	--	--	--	--	122	48	1.1

SAN JACINTO RIVER BASIN

08075650 BERRY BAYOU AT FOREST OAKS STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DEC									
28...	.31	--	3.9	2.2	--	4.8	9.4	--	.70
JAN									
16...	.05	.46	.45	1.8	2.2	.61	22	21	.20
16...	.03	.29	.40	1.6	2.0	.67	12	--	.20
17...	.26	1.4	.89	3.2	4.1	1.0	19	--	.30

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
JAN							
16...	1438	5	0	0	0	1	30
AUG							
31...	1520	19	100	0	0	4	20

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
JAN						
16...	3	0	.0	0	0	0
AUG						
31...	0	0	.0	0	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
JAN									
16...	1725	1.0	.00	.00	.1	.00	.00	.00	.16
AUG									
31...	1520	.1	.00	.00	.4	.00	.00	.00	.21

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
JAN									
16...	.01	.00	.00	.00	.00	.00	.01	.00	.00
AUG									
31...	.03	.00	.00	.00	.00	.00	.00	.00	.00

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JAN								
16...	.00	--	.00	0	.00	.00	.00	.02
AUG								
31...	.00	.00	.00	0	.00	.00	.01	.00

VINCE BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the drainage basin are shown on figure 11.

Weighted-mean rainfall in the drainage basin based on two rain gages for the 1978 water year was 33.8 inches or 14.4 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

No storms were selected for analysis in the 1978 water year.

SAN JACINTO RIVER BASIN

08075730 VINCE BAYOU AT PASADENA, TX

LOCATION.--Lat 29°41'40", long 95°12'58", Harris County, Hydrologic Unit 12040104, on right bank of concrete lined channel at end of West Ellaine Avenue in Pasadena and 2.4 mi (3.9 km) upstream from mouth.

DRAINAGE AREA (revised).--7.61 mi² (19.71 km²). Prior to Jan. 1, 1978, 8.21 mi² (21.26 km²). Drainage area revision due to storm sewers routed to new ditch in Berry Bayou basin.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 2.54 ft (0.774 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence (levels by Corps of Engineers).

REMARKS.--Water discharge records fair. Low flow is sustained by sewage effluent.

AVERAGE DISCHARGE.--7 years, 16.4 ft³/s (0.464 m³/s), 11,880 acre-ft/yr (14.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,360 ft³/s (95.2 m³/s) June 11, 1973, gage height, 16.20 ft (4.938 m); no flow Aug. 5, 6, 18, 1972.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
June 27	1630	*1,470	41.6	13.06	3.981
aAug. 31	1500	154	4.36	9.49	2.893
aSept. 7	1130	152	4.30	9.48	2.890

a Water-quality samples were obtained during this flood event.

Minimum daily discharge, 0.15 ft³/s (0.004 m³/s) June 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	47	5.2	2.1	15	.78	1.4	.86	6.6	2.8	1.5	3.3
2	9.7	12	1.6	4.0	6.2	.90	1.4	1.9	5.6	35	1.1	1.2
3	2.2	4.1	2.0	1.1	11	1.4	2.0	11	22	16	.85	.66
4	1.8	2.8	1.8	3.0	4.7	1.2	1.9	.62	1.7	4.5	1.3	1.7
5	1.1	2.0	1.8	2.4	3.3	1.0	2.5	.62	3.1	20	1.5	1.9
6	1.0	.67	2.6	1.6	2.7	1.0	1.3	.71	1.1	11	12	1.4
7	3.1	1.8	2.8	7.1	120	21	.75	.33	60	6.3	2.1	31
8	1.4	24	1.6	4.1	89	3.7	3.0	.38	.56	7.0	.69	11
9	1.3	5.9	1.8	1.4	19	3.6	1.3	.31	.22	6.9	.81	33
10	1.0	2.6	1.5	1.3	4.9	3.3	2.7	.31	.15	4.8	.49	81
11	1.4	1.2	1.5	133	2.3	1.6	1.3	.47	.15	11	.44	97
12	.88	1.1	1.8	28	14	1.4	13	.84	.19	9.8	.71	102
13	1.0	.85	43	6.9	2.9	1.3	1.8	1.1	.26	6.4	33	25
14	.98	.80	5.1	2.2	1.1	1.3	.68	.46	1.7	5.6	1.5	6.1
15	1.2	2.4	1.5	1.7	1.7	1.5	1.2	.33	1.5	3.2	.62	21
16	2.0	1.5	1.4	192	1.4	1.6	1.2	.46	1.5	5.3	.30	2.7
17	1.8	1.6	1.6	24	24	2.5	1.3	.32	2.1	1.6	.30	1.9
18	1.3	2.1	1.6	123	4.4	2.1	.94	.35	7.6	1.2	.30	1.5
19	1.2	1.9	1.8	149	1.3	1.1	1.5	.81	.48	1.2	.30	1.0
20	1.3	1.7	1.6	12	.97	1.0	1.6	1.0	.87	.70	.30	27
21	2.3	76	1.5	5.2	1.9	1.7	1.9	1.2	.82	1.0	.78	5.2
22	5.2	5.7	3.1	2.4	1.6	1.3	1.7	4.3	.45	3.9	.38	1.7
23	1.4	2.2	2.6	20	.81	2.7	3.5	6.2	.17	4.7	.46	1.4
24	.74	1.6	1.4	28	.77	22	1.1	7.1	.34	1.1	.78	1.7
25	.87	1.5	.99	15	.66	2.7	1.3	2.7	.26	.82	.78	1.2
26	1.1	1.2	.96	5.2	.78	2.5	1.6	.61	.43	1.3	.66	.78
27	1.3	1.4	.70	5.8	1.3	1.7	.97	.48	207	8.8	.46	.56
28	1.2	5.7	1.3	5.6	.99	2.6	1.6	.32	21	1.0	.56	.56
29	1.2	136	11	3.7	---	2.5	.94	9.9	5.3	.76	1.2	.46
30	1.2	20	2.1	4.3	---	2.9	.78	6.3	4.3	1.2	2.1	.46
31	.84	---	2.1	17	---	2.6	---	.87	---	2.8	22	---
TOTAL	58.61	369.32	111.35	812.1	338.68	98.48	58.16	63.16	357.45	187.68	90.27	465.38
MEAN	1.89	12.3	3.59	26.2	12.1	3.18	1.94	2.04	11.9	6.05	2.91	15.5
MAX	9.7	136	43	192	120	22	13	11	207	35	33	102
MIN	.74	.67	.70	1.1	.66	.78	.68	.31	.15	.70	.30	.46
AC-FT	116	733	221	1610	672	195	115	125	709	372	179	923
(††)	.44	5.52	1.02	5.88	2.44	.84	.76	.85	4.84	1.14	2.56	7.46

CAL YR 1977 TOTAL 4025.65' MEAN 11.0 MAX 381 MIN .27 AC-FT 7980 †† 37.09
WTR YR 1978 TOTAL 3010.64 MEAN 8.25 MAX 207 MIN .15 AC-FT 5970 †† 33.75

†† Weighted-mean rainfall, in inches, based on two rain gages.

08075730 VINCE BAYOU AT PASADENA, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: May 1971 to September 1973, October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TFMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
DEC 28...	1200	1.9	1120	7.9	10.0	40	10	9.5	87	10
APR 24...	1100	1.0	658	9.9	31.0	50	20	20.0	270	4.7
MAY 30...	1410	1.0	425	9.2	35.0	90	20	18.6	266	7.8
JUL 17...	0950	1.2	683	8.1	31.0	40	20	13.2	178	9.0
AUG 09...	1100	.56	467	9.7	30.0	50	20	16.4	219	5.5
28...	1025	.38	843	9.1	24.5	60	10	18.8	229	16
31...	1300	2.4	126	7.0	27.0	100	90	13.4	170	8.1
31...	1410	73	409	7.1	22.5	70	20	7.7	91	4.8
SFP 07...	1345	53	160	6.9	26.5	100	65	5.9	75	9.9

DATE	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
DEC 28...	1600000	120000	9700	170	0	46	13	180	6.0	7.0
APR 24...	830	2500	100	130	0	37	10	92	3.5	5.7
MAY 30...	6700	680	500	--	--	--	--	--	--	--
JUL 17...	100000	25000	700	130	0	37	9.2	84	3.2	4.8
AUG 09...	3200	160	60	98	5	31	5.1	54	2.4	2.9
28...	200000	3800	62	130	0	42	7.0	120	4.5	4.6
31...	400000	300000	9100	72	6	27	1.1	4.4	.2	1.2
31...	580000	310000	9400	110	0	33	5.6	38	1.6	5.2
SFP 07...	600000	220000	20000	61	11	21	2.0	9.3	.5	2.3

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
DEC 28...	420	0	36	130	1.2	3.9	624	16	6	.19
APR 24...	78	66	33	92	.6	8.1	383	11	10	.00
MAY 30...	--	--	--	--	--	--	--	23	9	.04
JUL 17...	210	0	32	80	.5	9.9	361	29	22	.03
AUG 09...	87	13	43	58	.2	3.0	253	32	21	.01
28...	180	26	63	110	.5	6.8	469	15	6	.03
31...	61	0	10	4.0	.1	2.8	91	370	84	.38
31...	140	0	23	43	.3	8.3	226	30	6	.03
SFP 07...	61	0	14	7.9	.2	4.2	91	118	25	.42

08075730 VINCE BAYOU AT PASADENA, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DEC									
28...	.07	--	1.2	3.3	--	1.9	9.8	--	.80
APR									
24...	.01	.01	.01	1.6	1.6	.27	19	--	.80
MAY									
30...	.03	.07	.11	1.2	1.3	.26	23	--	.60
JUL									
17...	.00	.03	.01	1.2	1.2	.39	19	4	.50
AUG									
09...	.01	.02	.02	1.6	1.6	.26	26	--	.60
28...	.01	.04	.04	1.6	1.6	2.5	15	5	1.1
31...	.02	.40	.19	1.4	1.6	.44	17	3	.30
31...	.02	.95	.03	4.1	4.1	.27	14	5	.40
SEP									
07...	.05	.47	.12	.80	.92	.24	15	--	.40

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
JUL							
17...	0950	15	300	0	0	7	20
AUG							
28...	1025	4	0	0	0	2	20
31...	1300	3	0	0	0	3	10
31...	1410	4	100	0	10	3	20

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
JUL						
17...	0	0	.0	0	0	10
AUG						
28...	0	0	.0	1	0	20
31...	2	10	.0	0	0	20
31...	2	0	.0	0	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
JUL									
17...	0950	.0	.00	.00	.0	.00	.00	.00	.98
AUG									
28...	1025	.0	.00	.00	.0	.00	.00	.00	.12
31...	1300	.2	.00	.01	.3	.00	.01	.03	.14
31...	1410	.0	.00	.00	.0	.00	.00	.00	.14

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
JUL									
17...	.01	.00	.00	.00	.00	.00	.01	.00	.00
AUG									
28...	.00	.00	.00	.00	.00	.00	.00	.00	.00
31...	.01	.00	.00	.04	.02	.01	.00	.14	.05
31...	.00	.00	.00	.00	.00	.00	.00	.00	.00

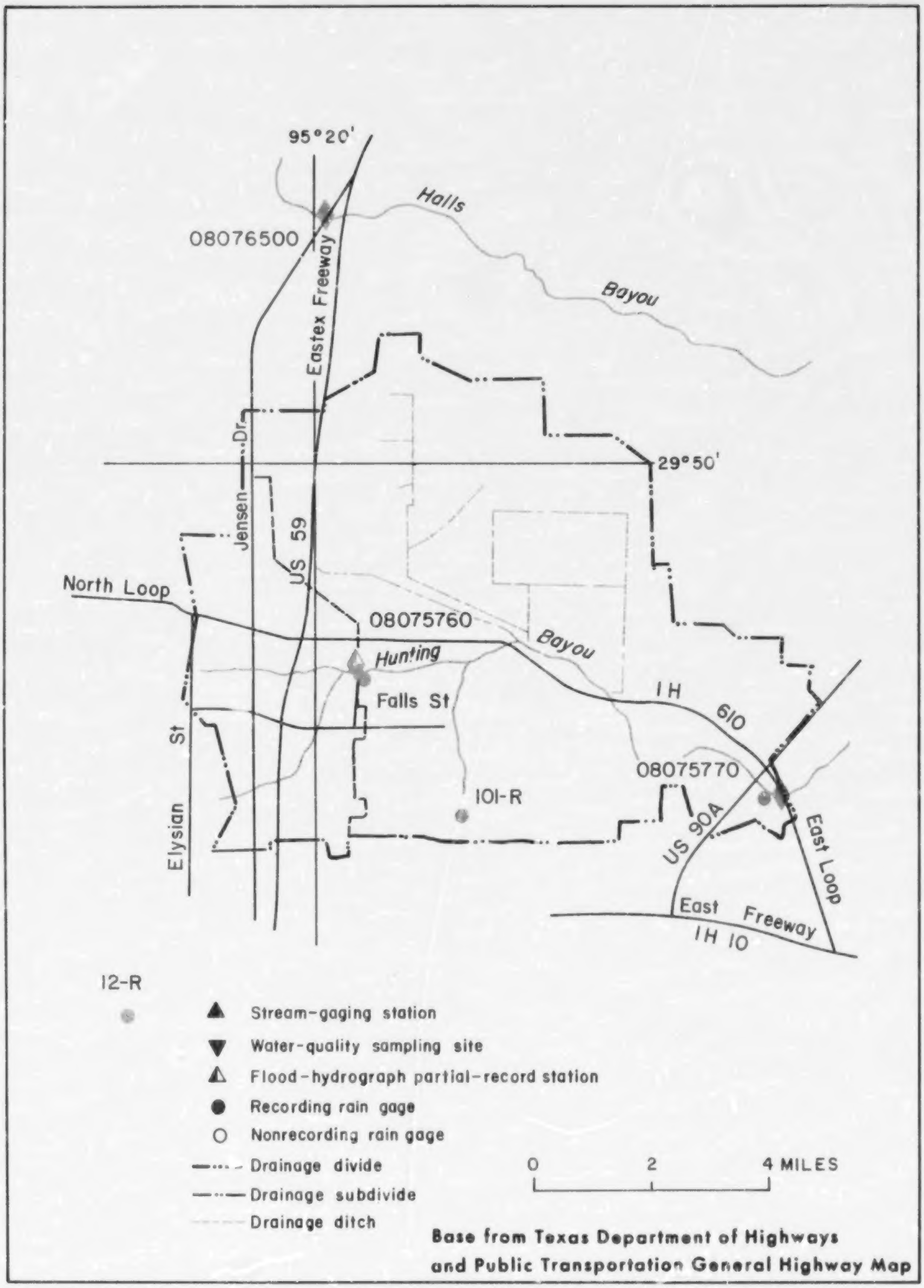
DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUL								
17...	.00	.00	.09	0	.00	--	--	--
AUG								
28...	.00	.00	.00	0	.00	.00	.00	.00
31...	.00	.00	.00	0	.00	.30	.12	.02
31...	.00	.00	.00	0	.00	.13	.12	.00

HUNTING BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Hunting Bayou drainage basin are shown on figure 12.

Weighted-mean rainfall in the drainage basin based on two rain gages for the 1978 water year was 45.1 inches, or 3.1 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storm of June 6-7 was selected for analysis at both the Falls Street (08075760) and the IH-610 (08075770) gaging stations.



Base from Texas Department of Highways and Public Transportation General Highway Map

FIGURE 12.- Locations of data-collection sites in and near the Hunting Bayou drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 9.--Storm rainfall-runoff data, 1978 water year. Hunting Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Hunting Bayou at Falls Street, Houston, TX (Drainage area--2.75 mi^2)								
June 6-7, 1978	14.0	3.84	0.60	1.08	1.80	1.87	0.49	345
Hunting Bayou at IH-610, Houston, TX (Drainage area--14.7 mi^2)								
June 6-7, 1978	14.2	3.74	1.05	1.48	2.10	2.39	0.64	1,370

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°48'22", long 95°19'50", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on Falls Street in northeast Houston.

DRAINAGE AREA.--2.75 mi² (7.12 km²). Prior to Oct. 1, 1973, 3.50 mi² (9.07 km²). Drainage area change due to changes in storm sewers.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1964 to current year.

GAGE.--Flood-hydrograph and rainfall recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Additional storm rainfall-runoff data for this site can be obtained from the report "Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1978."

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 778 ft³/s (22.0 m³/s) June 13, 1973, elevation, 46.70 ft (14.234 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft³/s (7.08 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Jan. 16	1400	342	9.69	42.19	12.806	aJune 7	0515	*345	9.77	42.72	13.021
aMay 30	1745	176	4.98	40.59	12.372						

a Water-quality samples were obtained during this flood event.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year. Water temperatures: April 1964 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
DEC 27...	1235	.32	1170	7.7	13.5	10	20	13.8	137	4.4
APR 26...	0830	1.4	971	7.4	19.0	30	40	4.0	44	9.3
MAY 30...	1830	123	179	7.8	24.5	110	220	7.1	87	11
JUN 06...	2200	39	343	6.8	26.0	200	100	2.2	28	13
JUL 18...	0935	.40	1250	8.0	29.0	60	30	6.7	88	36
AUG 29...	0920	.55	1510	8.4	24.0	200	40	1.7	21	36
31...	1645	4.8	586	7.0	23.0	140	250	3.6	43	73

DATE	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
DEC 27...	35000	500	190	320	64	91	22	110	2.7	2.8
APR 26...	26000	5000	1200	210	0	60	15	120	3.6	4.5
MAY 30...	1000000	72000	49000	64	18	21	2.7	11	.6	3.5
JUN 06...	2100000	1100000	120000	--	--	--	--	--	--	--
JUL 18...	440000	100000	2000	200	0	56	14	160	5.0	4.7
AUG 29...	1500000	1200000	49000	110	0	34	7.2	200	8.1	7.6
31...	540000	8000	76000	130	0	43	5.6	74	2.8	5.8

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
DEC										
27...	310	0	52	180	.5	17	628	22	0	.59
APR										
26...	330	0	45	120	.6	16	544	67	8	.03
MAY										
30...	56	0	20	13	.1	.6	100	576	120	.80
JUN										
06...	--	--	--	--	--	--	--	202	46	.56
JUL										
18...	440	0	39	150	.7	20	662	55	32	.02
AUG										
29...	310	0	25	240	.6	14	682	71	48	.00
31...	230	0	41	50	.6	14	348	840	268	.14

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
DEC									
27...	.09	--	.47	.93	--	.69	6.2	--	.40
APR									
26...	.03	.06	2.2	2.0	4.2	1.7	14	--	.70
MAY									
30...	.05	.85	.46	1.3	1.8	.78	14	8	.20
JUN									
06...	.06	.62	.80	1.3	2.1	.06	17	--	.30
JUL									
18...	.03	.05	16	11	27	2.0	16	4	.30
AUG									
29...	.01	.01	22	19	41	3.1	50	28	2.5
31...	.11	.25	.94	1.9	2.8	.94	68	--	.10

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY							
30...	1830	6	200	0	0	6	40
JUL							
18...	0935	6	400	0	0	2	40
AUG							
29...	0920	3	200	0	0	0	20
31...	1645	3	100	1	0	1	40

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY						
30...	3	20	.0	0	0	40
JUL						
18...	0	120	.0	1	0	20
AUG						
29...	2	160	.0	1	0	10
31...	0	210	.0	0	0	20

SAN JACINTO RIVER BASIN

08075760 HUNTING BAYOU AT FALLS STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
MAY									
30...	1830	.0	.00	.00	.0	.01	.00	.04	.19
31...	0945	.0	.00	.00	.0	.00	.00	.00	.11
JUL									
18...	0935	.0	.00	.00	.0	.00	.00	.00	.00
AUG									
29...	0920	.1	.00	.01	.0	.01	.00	.00	.16
31...	1645	.4	.00	.00	.2	.00	.00	.02	.14

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
MAY									
30...	.00	.00	.00	.00	.00	.00	.00	.00	.00
31...	.00	.00	.00	.00	.00	.00	.00	.03	.00
JUL									
18...	.00	.00	.00	.00	.00	.01	.00	.00	.04
AUG									
29...	.00	.00	.00	.00	.00	.00	.00	.04	.00
31...	.00	.00	.00	.00	.01	.00	.00	.22	.06

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY								
30...	.00	.00	.00	0	.00	.00	.00	.01
31...	.00	.00	.00	0	.00	--	--	--
JUL								
18...	.00	.00	.00	0	.00	.05	.00	.02
AUG								
29...	.00	.00	.00	0	.00	.00	.00	.00
31...	.00	.00	.00	0	.00	1.2	.51	.00

STA. NO. 08075760 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

HUNTING BAYOU AT FALLS STREET. HOUSTON. TEX. STORM OF JUNE 6-7. 1978

DATE & TIME	GAGE NUMBER 5760							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
JUNE 6										
0000	0.0							0.0	1.5	0.0024
0545	0.0							0.0	1.5	0.0050
0600	0.24							0.24	1.5	0.0052
0615	0.36							0.36	1.5	0.0081
1300	0.36							0.36	1.5	0.0111
1315	0.48							0.48	1.5	0.0113
1330	0.48							0.48	1.5	0.0115
1345	0.60							0.60	4.0	0.0121
1400	0.60							0.60	8.0	0.0132
1415	0.84							0.84	15.0	0.0153
1430	1.20							1.20	24.0	0.0193
1445	1.20							1.20	57.0	0.0273
1500	1.20							1.20	61.0	0.0387
1515	1.32							1.32	89.0	0.0512
1530	1.32							1.32	92.0	0.0642
1545	1.32							1.32	94.0	0.0774
1600	1.32							1.32	90.0	0.0901
1615	1.68							1.68	85.0	0.1021
1630	1.80							1.80	84.0	0.1139
1645	1.80							1.80	99.0	0.1279
1700	1.80							1.80	110.0	0.1434
1715	1.80							1.80	114.0	0.1594
1730	1.80							1.80	113.0	0.1753
1745	1.80							1.80	108.0	0.1906
1800	1.80							1.80	104.0	0.2125
1830	1.80							1.80	93.0	0.2387
1900	1.80							1.80	83.0	0.2621
1930	1.80							1.80	74.0	0.2830
2000	1.80							1.80	65.0	0.2967
2015	1.80							1.80	64.0	0.3057
2030	1.92							1.92	58.0	0.3180
2100	1.92							1.92	53.0	0.3329
2130	1.92							1.92	48.0	0.3431
2145	1.92							1.92	44.0	0.3740
2400	1.92							1.92	25.0	0.3987
JUNE 7										
0000	1.92							1.92	25.0	0.3987
0230	1.92							1.92	17.0	0.4207
0245	2.28							2.28	17.0	0.4231
0300	2.76							2.76	17.0	0.4255

STA. NO. 08075760 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

HUNTING BAYOU AT FALLS STREET, HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
	5760									
JUNE 7										
0315	3.36							3.36	16.0	0.4277
0330	3.72							3.72	16.0	0.4300
0345	3.72							3.72	48.0	0.4367
0400	3.72							3.72	111.0	0.4524
0415	3.84							3.84	220.0	0.4834
0430	3.84							3.84	292.0	0.5245
0445	3.84							3.84	329.0	0.5708
0500	3.84							3.84	341.0	0.6189
0515	3.84							3.84	345.0	0.6675
0530	3.84							3.84	342.0	0.7157
0545	3.84							3.84	336.0	0.7630
0600	3.84							3.84	326.0	0.8319
0630	3.84							3.84	305.0	0.9178
0700	3.84							3.84	283.0	0.9975
0730	3.84							3.84	260.0	1.0708
0800	3.84							3.84	234.0	1.1697
0900	3.84							3.84	192.0	1.2779
1000	3.84							3.84	156.0	1.3658
1100	3.84							3.84	127.0	1.4373
1200	3.84							3.84	103.0	1.4954
1300	3.84							3.84	84.0	1.5427
1400	3.84							3.84	68.0	1.5810
1500	3.84							3.84	56.0	1.6086
1545	3.84							3.84	48.0	1.6492
1800	3.84							3.84	37.0	1.7352
2400	3.84							3.84	20.0	1.7859
JUNE 8										
0000	3.84							3.84	20.0	1.7859
0600	3.84							3.84	10.0	1.8366
1200	3.84							3.84	5.5	1.8552
1800	3.84							3.84	3.5	1.8671
2400	3.84							3.84	2.0	1.8704

SAN JACINTO RIVER BASIN

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX

LOCATION.--Lat 29°47'35", long 95°16'04", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of downstream service road bridge of Interstate Highway 610 in northeast Houston and 8.8 mi (14.2 km) upstream from mouth.

DRAINAGE AREA.--14.7 mi² (38.1 km²). Prior to Oct. 1, 1973, 16.8 mi² (43.5 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1964 to current year. Prior to October 1973, published as "U.S. Highway 90-A, Houston".

REVISED RECORDS.--WDR TX-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence. Prior to Oct. 1, 1972, water-stage recorder at site 1,800 ft (549 m) upstream at same datum.

REMARKS.-Water-discharge records fair during period January to June and poor thereafter. Low flow is largely maintained by sewage and industrial effluent. Recording rain gage at station.

AVERAGE DISCHARGE.--14 years, 21.3 ft³/s (0.603 m³/s), 15,430 acre-ft/yr (19.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,380 ft³/s (95.7 m³/s) June 13, 1973, elevation, 38.11 ft (11.616 m); maximum gage height, 39.28 ft (11.973 m) June 15, 1976; minimum daily, 0.88 ft³/s (0.025 m³/s) Aug. 24, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (19.8 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
aNov. 29	1430	268	7.59	26.09	7.952	aMay 30	2130	462	13.1	28.16	8.583
aDec. 13	1530	577	16.3	29.07	8.861	June 7	0630	*1,370	38.8	33.77	10.293
Jan. 16	1630	1,060	30.0	32.17	9.805	aAug. 31	1830	20	.57	21.70	6.614

a Water-quality samples were obtained during this flood event.

Minimum daily discharge, 3.4 ft³/s (0.10 m³/s) Nov. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	38	17	7.4	29	9.4	5.7	4.5	29	4.9	6.0	40
2	13	45	11	15	19	8.8	5.7	5.1	105	4.5	5.0	20
3	9.6	9.3	8.1	7.6	14	12	5.6	22	107	4.2	4.5	12
4	5.4	6.4	7.0	6.1	13	8.8	5.6	5.3	28	4.0	4.2	13
5	6.2	5.4	6.2	6.0	11	7.9	5.5	4.6	17	21	4.0	8.9
6	7.6	4.4	5.6	6.0	9.6	8.5	5.4	4.7	112	24	4.0	7.5
7	7.4	9.6	4.2	7.8	74	27	5.4	5.5	718	5.1	4.0	25
8	7.4	72	4.6	14	194	12	5.3	4.7	95	4.6	7.0	12
9	7.4	24	3.9	6.9	51	9.4	5.2	4.6	22	3.9	5.0	21
10	7.2	8.0	3.8	6.4	28	8.6	6.0	4.2	12	4.5	4.5	108
11	7.4	5.0	4.2	89	20	7.6	8.0	4.2	10	4.5	4.0	115
12	7.9	5.0	3.8	144	166	7.1	12	4.1	8.4	6.1	7.0	26
13	5.8	5.0	225	23	140	7.1	12	4.0	7.8	6.2	10	28
14	4.8	4.1	64	13	29	8.2	7.0	3.8	7.4	4.2	6.0	35
15	4.4	3.9	14	10	22	8.0	5.5	3.9	6.8	4.1	4.5	50
16	6.0	3.8	10	386	21	7.0	4.9	3.8	6.8	4.5	4.2	40
17	7.4	4.4	8.2	172	96	6.8	4.8	4.4	6.2	4.8	4.0	20
18	5.4	8.0	7.2	136	59	6.5	5.6	4.6	9.8	4.3	4.0	12
19	7.0	4.4	7.4	332	22	6.5	5.0	4.7	6.0	7.9	4.0	10
20	4.2	4.1	5.8	55	17	6.4	5.1	4.7	5.2	5.4	4.0	20
21	4.4	68	7.0	24	13	6.3	4.8	4.2	5.4	4.0	6.0	60
22	5.6	17	5.6	26	12	6.2	5.5	4.6	5.4	37	4.8	30
23	6.6	5.8	4.6	44	11	6.2	7.0	4.9	5.0	97	4.4	15
24	7.0	4.2	4.4	75	12	20	5.3	4.2	4.4	26	4.2	9.0
25	6.4	3.9	4.2	44	11	10	5.9	4.1	4.2	29	10	7.0
26	4.8	3.6	4.1	21	11	8.0	4.5	4.3	3.9	33	7.0	6.0
27	4.6	3.4	4.0	16	13	7.0	4.4	4.2	15	40	6.0	5.0
28	4.4	4.2	5.4	13	12	6.5	4.8	4.5	8.3	30	5.0	4.5
29	4.7	115	16	11	---	6.2	4.6	75	12	15	5.0	4.2
30	4.2	57	8.3	11	---	6.0	4.5	180	7.4	8.0	6.0	4.0
31	5.2	---	6.4	18	---	5.8	---	116	---	7.0	11	---
TOTAL	194.8	551.9	491.0	1746.2	1129.6	271.9	176.6	513.4	1390.4	458.7	169.3	768.1
MEAN	6.28	18.4	15.8	56.3	40.3	8.77	5.89	16.6	46.3	14.8	5.46	25.6
MAX	13	115	225	386	194	27	12	180	718	97	11	115
MIN	4.2	3.4	3.8	6.0	9.6	5.8	4.4	3.8	3.9	3.9	4.0	4.0
AC-FT	386	1090	974	3460	2240	539	350	1020	2760	910	336	1520
(††)	1.00	5.10	2.07	7.43	3.45	.83	.79	4.14	7.17	5.94	1.07	6.10

CAL YR 1977 TOTAL 7187.4 MEAN 19.7 MAX 364 MIN 2.5 AC-FT 14260 †† 37.62
WTR YR 1978 TOTAL 7861.9 MEAN 21.5 MAX 718 MIN 3.4 AC-FT 15590 †† 45.09

†† Weighted-mean rainfall, in inches, based on two rain gages.

SAN JACINTO RIVER BASIN

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
NOV										
30...	1100	110	341	7.8	14.0	110	110	8.1	81	20
DEC										
14...	0845	59	399	7.2	15.0	110	50	6.0	61	12
APR										
24...	1215	5.2	822	7.9	26.5	30	20	12.8	162	12
MAY										
30...	2000	411	241	6.4	25.5	80	200	13.6	170	14
31...	0720	144	343	7.0	24.5	90	60	2.0	24	10
JUN										
07...	0120	331	268	7.2	26.0	140	150	2.6	32	16
07...	1235	898	176	7.1	23.0	80	60	5.4	64	9.3
JUL										
12...	1315	4.2	738	7.3	30.5	50	30	7.4	99	29
AUG										
08...	1150	4.1	785	7.5	28.5	50	20	8.2	106	7.8
22...	1245	4.8	590	7.2	28.0	60	20	4.5	58	11
31...	1745	19	666	7.7	23.0	120	90	1.4	17	14

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
NOV										
30...	640000	74000	91000	--	--	--	--	--	--	--
DEC										
14...	1600000	300000	76000	--	--	--	--	--	--	--
APR										
24...	200000	3100	130	200	0	59	13	87	2.7	5.3
MAY										
30...	1200000	300000	100000	73	19	24	3.2	11	.6	3.5
31...	1300000	310000	96000	--	--	--	--	--	--	--
JUN										
07...	600000	190000	69000	--	--	--	--	--	--	--
07...	1200000	280000	74000	--	--	--	--	--	--	--
JUL										
12...	280000	100000	3200	160	0	48	9.2	77	2.7	6.4
AUG										
08...	17000	2900	66	170	0	50	9.7	95	3.2	5.3
22...	240000	49000	750	--	--	--	--	--	--	--
31...	580	40	140	110	0	36	4.8	91	3.8	6.0

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
NOV										
30...	--	--	--	--	--	--	--	206	54	1.0
DEC										
14...	--	--	--	--	--	--	--	107	7	1.7
APR										
24...	270	0	66	84	.6	13	461	21	18	.08
MAY										
30...	66	0	39	4.3	.3	3.9	122	712	124	1.8
31...	--	--	--	--	--	--	--	214	18	1.6
JUN										
07...	--	--	--	--	--	--	--	468	64	.52
07...	--	--	--	--	--	--	--	119	13	.34
JUL										
12...	220	0	56	70	.6	6.4	383	51	38	.22
AUG										
08...	240	0	56	85	.4	4.1	424	33	31	.14
22...	--	--	--	--	--	--	--	23	14	.07
31...	240	0	37	66	.5	10	370	158	50	.08

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
NOV									
30...	.06	1.1	.73	1.2	1.9	.64	16	--	.20
DEC									
14...	.09	1.8	.18	2.3	2.5	.98	24	--	.50
APR									
24...	.08	.16	7.4	1.0	8.4	3.2	17	--	2.1
MAY									
30...	.00	1.8	2.9	4.3	7.2	.99	30	14	.40
31...	.22	1.8	2.3	.90	3.2	1.2	20	--	.40
JUN									
07...	.07	.59	.67	1.2	1.9	.85	17	--	.10
07...	.04	.38	.38	1.0	1.4	.72	12	--	.10
JUL									
12...	.41	.63	4.1	4.9	9.0	3.4	18	9	.50
AUG									
08...	.21	.35	4.8	1.5	6.3	2.9	12	3	.60
22...	.07	.14	3.6	3.2	6.8	4.9	30	--	.50
31...	.14	.22	5.1	2.6	7.7	2.1	506	7	.30

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
MAY							
30...	2000	22	200	0	0	4	40
JUL							
12...	1315	5	400	0	0	4	30
AUG							
08...	1150	8	--	0	0	2	20
31...	1745	6	100	1	0	0	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY						
30...	0	30	.0	0	0	20
JUL						
12...	0	0	.0	0	0	20
AUG						
08...	0	10	.0	0	0	20
31...	3	40	.0	0	0	20

SAN JACINTO RIVER BASIN

08075770 HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
MAY									
30...	2000	.0	.00	.00	.1	.30	.00	.10	.13
JUL									
12...	1315	.0	.00	.00	.0	.02	.01	.01	.52
AUG									
08...	1150	.0	.00	.00	.0	.02	.00	.01	.29
31...	1745	.0	.00	.00	.1	.05	.01	.00	.74

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
MAY									
30...	.10	.00	.00	.00	.00	.00	.00	.00	.00
JUL									
12...	.01	.06	.00	.00	.00	.00	.02	.10	.00
AUG									
08...	.01	--	.00	.00	.00	.00	.02	.02	.00
31...	.01	.00	.00	.00	.00	.00	.01	.68	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY								
30...	.00	.00	.00	0	.00	.00	.00	.00
JUL								
12...	.00	.00	.00	0	.00	.06	.00	.00
AUG								
08...	.00	.00	.00	0	.00	.00	.00	.02
31...	.00	.00	.00	0	.00	.13	.00	.00

STA. NO. 08075770 — STORM RAINFALL AND RUNOFF RECORD — 1978 WATER YEAR

HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TEX. — STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER 5770	5760	1018					ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
JUNE 6										
0000	0.0	0.0	0.0					0.0	12.0	0.0032
0500	0.0	0.0	0.0					0.0	12.0	0.0065
0515	0.02	0.0	0.27					0.06	15.0	0.0069
0530	0.04	0.0	0.27					0.06	16.0	0.0073
0545	0.06	0.0	0.33					0.07	16.0	0.0077
0600	0.06	0.24	0.33					0.23	16.0	0.0081
0615	0.06	0.36	0.33					0.31	16.0	0.0086
0630	0.06	0.36	0.33					0.31	17.0	0.0090
0645	0.06	0.36	0.33					0.31	19.0	0.0115
0900	0.06	0.36	0.33					0.31	39.0	0.0182
1000	0.06	0.36	0.33					0.31	41.0	0.0263
1245	0.06	0.36	0.33					0.31	39.0	0.0325
1300	0.38	0.36	0.36					0.36	39.0	0.0335
1315	0.50	0.48	0.38					0.46	42.0	0.0346
1330	0.51	0.48	0.49					0.49	53.0	0.0363
1345	0.52	0.60	0.50					0.57	60.0	0.0378
1400	0.52	0.60	0.66					0.60	57.0	0.0393
1415	0.53	0.84	0.66					0.76	57.0	0.0408
1430	0.53	1.20	0.66					0.99	55.0	0.0423
1445	0.64	1.20	0.66					1.01	58.0	0.0439
1500	0.64	1.20	0.66					1.01	60.0	0.0454
1515	0.66	1.32	0.66					1.09	62.0	0.0471
1530	0.66	1.32	0.66					1.09	66.0	0.0488
1545	0.66	1.32	0.66					1.09	70.0	0.0507
1600	0.80	1.32	0.78					1.13	74.0	0.0526
1615	0.80	1.68	0.88					1.39	93.0	0.0551
1630	0.80	1.80	0.89					1.47	107.0	0.0579
1645	0.80	1.80	0.89					1.47	119.0	0.0610
1700	0.80	1.80	0.89					1.47	132.0	0.0697
1800	0.80	1.80	0.89					1.47	193.0	0.0824
1815	0.80	1.80	0.89					1.47	209.0	0.0879
1830	0.85	1.80	0.89					1.48	225.0	0.0939
1845	0.91	1.80	0.97					1.50	225.0	0.0998
1900	0.91	1.80	1.01					1.51	258.0	0.1168
2000	0.91	1.80	1.01					1.51	317.0	0.1377
2015	0.91	1.80	1.01					1.51	317.0	0.1460
2030	0.95	1.92	1.01					1.59	340.0	0.1595
2100	0.95	1.92	1.01					1.59	360.0	0.1879
2200	0.95	1.92	1.01					1.59	375.0	0.2275

STA. NO. 08075770 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
	5770	5760	101R							
JUNE 6										
2300	0.95	1.92	1.01					1.59	372.0	0.2667
2400	0.95	1.92	1.01					1.59	354.0	0.2947
JUNE 7										
0000	0.95	1.92	1.01					1.59	354.0	0.2947
0100	0.95	1.92	1.01					1.59	339.0	0.3263
0115	0.95	1.92	1.01					1.59	334.0	0.3351
0130	1.01	1.92	1.01					1.60	328.0	0.3437
0145	1.16	1.92	1.01					1.62	324.0	0.3522
0200	1.20	1.92	1.01					1.63	321.0	0.3607
0215	1.22	1.92	1.06					1.64	325.0	0.3693
0230	1.49	1.92	1.06					1.68	327.0	0.3779
0245	1.92	2.28	1.36					2.04	323.0	0.3864
0300	2.97	2.76	2.16					2.67	357.0	0.3958
0315	3.30	3.36	2.81					3.24	433.0	0.4072
0330	3.59	3.72	3.09					3.57	555.0	0.4218
0345	3.65	3.72	3.19					3.60	665.0	0.4394
0400	3.72	3.72	3.23					3.62	764.0	0.4595
0415	3.76	3.84	3.26					3.71	891.0	0.4830
0430	3.79	3.84	3.28					3.72	971.0	0.5086
0445	3.79	3.84	3.29					3.72	1030.0	0.5357
0500	3.80	3.84	3.31					3.73	1140.0	0.5808
0530	3.80	3.84	3.31					3.73	1210.0	0.6446
0600	3.85	3.84	3.31					3.74	1340.0	0.7152
0630	3.85	3.84	3.31					3.74	1370.0	0.7874
0700	3.85	3.84	3.31					3.74	1360.0	0.8591
0730	3.85	3.84	3.31					3.74	1340.0	0.9297
0800	3.85	3.84	3.31					3.74	1320.0	0.9993
0830	3.85	3.84	3.31					3.74	1290.0	1.0673
0900	3.85	3.84	3.31					3.74	1250.0	1.1661
1000	3.85	3.84	3.31					3.74	1140.0	1.2863
1100	3.85	3.84	3.31					3.74	1030.0	1.3948
1200	3.85	3.84	3.31					3.74	950.0	1.5451
1400	3.85	3.84	3.31					3.74	772.0	1.7078
1600	3.85	3.84	3.31					3.74	595.0	1.8333
1800	3.85	3.84	3.31					3.74	456.0	1.9294
2000	3.85	3.84	3.31					3.74	370.0	2.0074
2200	3.85	3.84	3.31					3.74	304.0	2.0715
2400	3.85	3.84	3.31					3.74	243.0	2.1163
JUNE 8										
0000	3.85	3.84	3.31					3.74	243.0	2.1163
0300	3.85	3.84	3.31					3.74	165.0	2.1877

STA. NO. 08075770 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

HUNTING BAYOU AT INTERSTATE HIGHWAY 610, HOUSTON. TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
	5770	5760	1018							
JUNE 8										
0600	3.85	3.84	3.31					3.74	116.0	2.2244
0900	3.85	3.84	3.31					3.74	96.0	2.2547
1200	3.85	3.84	3.31					3.74	85.0	2.2951
1800	3.85	3.84	3.31					3.74	52.0	2.3280
2400	3.85	3.84	3.31					3.74	29.0	2.3417
JUNE 9										
0000	3.85	3.84	3.31					3.74	29.0	2.3417
0600	3.85	3.84	3.31					3.74	24.0	2.3615
1200	3.85	3.84	3.31					3.74	21.0	2.3748
1800	3.85	3.84	3.31					3.74	17.0	2.3855
2400	3.85	3.84	3.31					3.74	15.0	2.3903

GREENS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Greens Bayou drainage basin above U.S. Highway 59, are shown on figure 13. Data-collection sites in the lower portion of the drainage basin are shown on figure 1.

Halls Bayou, which is a part of the Greens Bayou drainage basin, is shown as a separate drainage basin in the report.

Weighted-mean rainfall for the drainage basin, based on four rain gages, above the U.S. Highway 75 station for the 1978 water year was 37.0 inches or 11.2 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

No storms were analyzed at the Cutten Road station (08075780). The storm of June 6-7 was selected for analysis at the U.S. Highway 75 station (08075900) and the U.S. Highway 59 station (08076000).

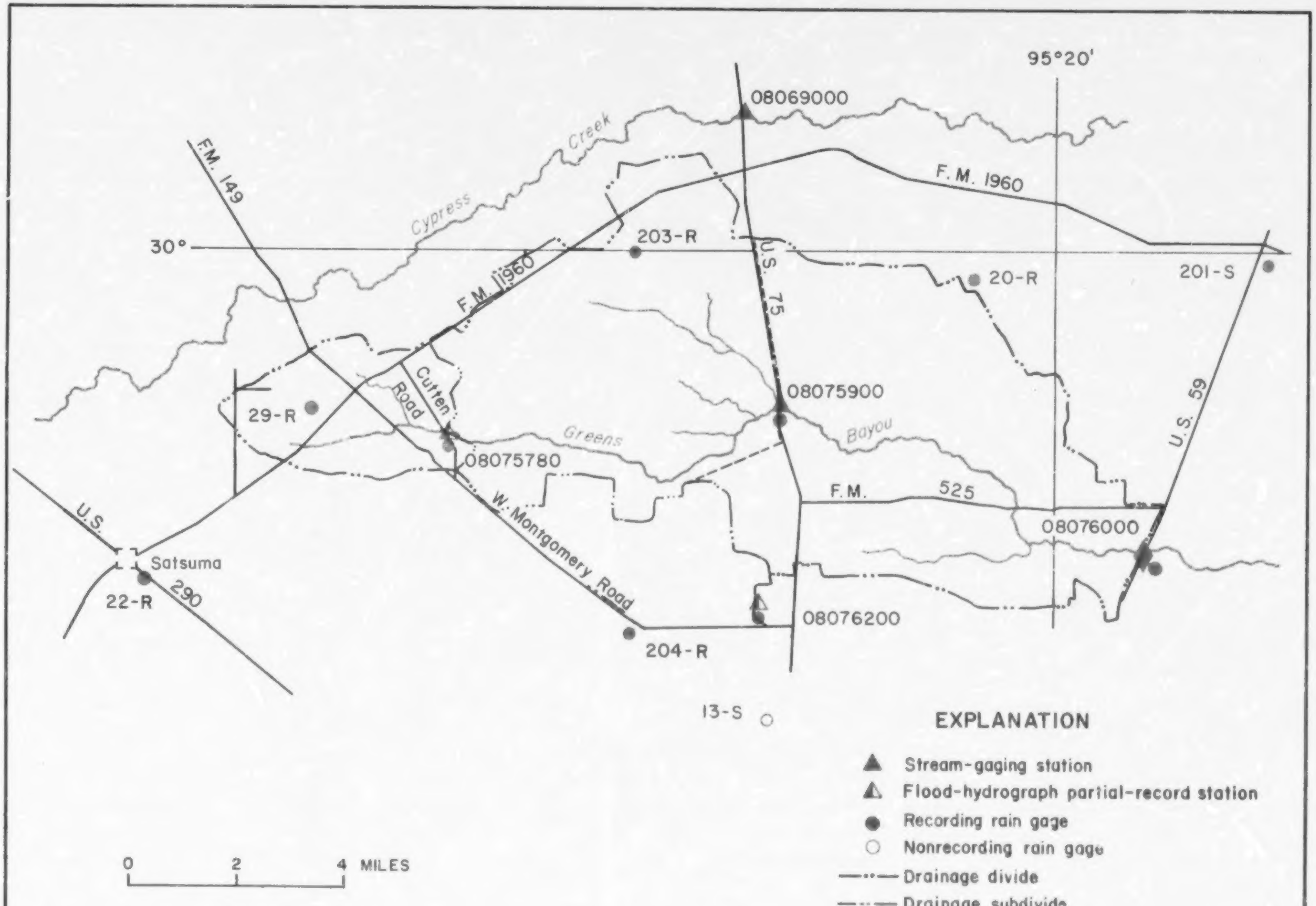


FIGURE 13.—Locations of data-collection sites in and near the Greens Bayou drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 10.--Storm rainfall-runoff data, 1978 water year, Greens Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Greens Bayou at U.S. Highway 75 nr Houston, TX (Drainage area--36.1 mi^2)								
June 6-7, 1978	14.2	3.88	0.76	1.12	1.97	1.56	0.40	2,530
Greens Bayou nr Houston, TX (Drainage area--69.6 mi^2)								
June 6-7, 1978	20.8	4.40	1.71	1.81	2.30	1.77	0.40	3,790

08075780 GREENS BAYOU AT CUTTEN ROAD NEAR HOUSTON, TEX.

(Flood-hydrograph partial-record station)

LOCATION.--29°56'56", long 95°31'10", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on Cutten Road, 16.2 miles upstream from station 08076000, Greens Bayou near Houston, and 16.5 miles northwest of the main post office in downtown Houston.

DRAINAGE AREA.--8.06 mi^2. Prior to Oct. 1, 1973, 8.73 mi^2.

PERIOD OF RECORD.--Aug. 1964 to Nov. 1977, April 20, 1978 to Sept. 1978.

GAGE.--Digital flood-hydrograph and rainfall recorders and crest-stage gage. Prior to Nov. 1977 a flood-hydrograph recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment, unadjusted for land-surface subsidence.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 169 ft^3/s, June 7, 1978 (elevation 107.80 ft) after channel rectification. Maximum discharge, 520 ft^3/s, June 13, 1973 (elevation 118.27), prior to channel rectification; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 150 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	ELEVATION (ft)
Jan. 16	unknown	est. 150	112.13
June 7	0645	*169	107.80
Sept. 11	0115	155	108.20

Minimum discharge not determined.

SAN JACINTO RIVER BASIN

08075900 GREENS BAYOU AT U.S. HIGHWAY 75 NEAR HOUSTON, TX

LOCATION.--Lat 29°57'24", long 95°25'04". Harris County, Hydrologic Unit 12040104, on left bank at downstream side of U.S. Highway 75 bridge, 9.0 mi (14.5 km) upstream from station 08076000, and 21 mi (34 km) upstream from Halls Bayou.

DRAINAGE AREA.--36.1 mi² (93.5 km²). Prior to October 1973, 34.8 mi² (90.1 km²).

PERIOD OF RECORD.--August 1965 to current year.

REVISED RECORDS.--WDR TX-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Datum of 1929, 1959 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair. Records furnished by Houston Lighting and Power Co. show that about 1,600 acre-ft (1.97 hm³) of ground water used for cooling purposes was released to bayou about 8 mi (13 km) upstream from gage during the current year. No known diversion above station. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years, 28.5 ft³/s (0.807 m³/s), 20,650 acre-ft/yr (25.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,940 ft³/s (83.3 m³/s) Mar. 20, 1972, elevation, 89.75 ft (27.356 m); maximum elevation, 91.09 ft (27.764 m) Feb. 21, 1969; minimum daily discharge, 0.16 ft³/s (0.004 m³/s) Oct. 21, 22, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Elevation (ft)	Elevation (m)
Jan. 16	1600	1,170	33.1	85.77	26.143	June 7	0600	*2,530	71.6	89.04	27.139
Jan. 19	0400	702	19.9	84.02	25.609	Sept. 13	2130	779	22.1	84.35	25.710

Minimum daily discharge, 4.4 ft³/s (0.12 m³/s) Dec. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	13	13	7.5	42	9.0	11	9.0	13	22	12	84
2	7.1	48	6.7	22	20	9.4	11	8.6	37	16	11	96
3	7.8	13	5.1	11	15	22	12	36	28	11	9.8	19
4	7.5	13	6.1	7.4	13	12	11	15	21	10	9.2	55
5	7.8	12	5.9	7.9	11	10	11	11	8.6	11	10	41
6	8.3	9.8	5.2	9.5	22	11	12	10	73	23	11	19
7	7.5	10	4.8	12	80	89	12	10	1210	11	12	14
8	7.0	80	6.4	25	257	40	13	10	172	11	10	15
9	9.9	57	5.8	9.2	83	21	13	8.3	39	9.7	8.7	12
10	10	12	4.6	8.3	52	15	13	8.2	20	10	9.4	45
11	11	6.8	4.4	69	33	13	15	8.5	16	8.5	9.8	190
12	9.2	5.3	6.5	108	113	14	15	9.0	14	9.4	21	41
13	9.2	5.2	146	18	113	15	14	7.6	16	9.1	39	188
14	9.2	5.1	49	9.7	50	14	12	7.5	35	8.2	13	218
15	8.4	4.6	11	6.6	35	14	11	8.9	15	8.4	12	34
16	7.3	5.3	8.1	360	25	17	11	8.5	12	8.0	10	14
17	5.3	4.9	7.2	134	40	19	13	9.5	10	8.5	11	11
18	5.5	4.8	6.5	152	34	12	11	9.1	10	8.3	11	11
19	4.7	5.6	6.9	396	20	12	9.8	8.7	10	7.6	11	12
20	4.5	7.1	6.7	75	15	13	9.6	9.8	9.8	8.0	9.7	11
21	4.6	47	7.9	36	13	12	9.0	11	8.5	7.9	9.8	11
22	8.9	14	7.3	32	12	14	9.1	7.4	8.2	11	9.8	11
23	8.5	9.7	8.2	26	10	17	10	8.3	9.0	17	11	9.4
24	6.3	8.0	6.5	58	9.6	25	9.8	8.8	9.5	10	12	7.1
25	6.0	6.5	6.1	45	9.9	14	8.4	7.6	10	11	12	7.5
26	8.5	6.7	6.4	28	9.9	11	8.4	13	9.8	14	9.9	7.2
27	7.3	7.7	7.2	18	9.7	10	9.4	9.7	11	10	11	7.4
28	6.7	6.4	9.8	13	9.7	10	9.0	10	14	68	10	8.3
29	6.1	35	18	12	---	11	11	19	10	56	12	7.8
30	7.8	36	9.5	12	---	11	8.8	44	12	20	14	7.7
31	7.8	---	8.0	17	---	12	---	20	---	23	38	---
TOTAL	233.2	499.5	410.8	1745.1	1156.8	528.4	333.3	372.0	1871.4	466.6	400.1	1214.4
MEAN	7.52	16.7	13.3	56.3	41.3	17.0	11.1	12.0	62.4	15.1	12.9	40.5
MAX	11	80	146	396	257	89	15	44	1210	68	39	218
MIN	4.5	4.6	4.4	6.6	9.6	9.0	8.4	7.4	8.2	7.6	8.7	7.1
AC-FT	463	991	815	3460	2290	1050	661	738	3710	926	794	2410
(††)	.49	3.05	2.37	7.38	2.86	1.51	.57	1.96	6.10	3.21	1.64	5.87

CAL YR 1977 TOTAL 8157.1 MEAN 22.3 MAX 725 MIN 4.4 AC-FT 16180 †† 28.63
WTR YR 1978 TOTAL 9231.6 MEAN 25.3 MAX 1210 MIN 4.4 AC-FT 18310 †† 37.01

†† Weighted-mean rainfall, in inches, based on four rain gages.

STA. NO. 08075900 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

GREENS BAYOU AT U.S. HWY. 75 NEAR HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT3/S	ACCUM. RUNOFF IN.
	5900	5780	203R	29R						
JUNE 6										
0000	0.0	0.0	0.0	0.0				0.0	7.6	0.0009
0515	0.0	0.0	0.0	0.0				0.0	7.6	0.0018
0530	0.0	0.0	0.0	0.05				0.01	7.5	0.0018
0545	0.0	0.0	0.0	0.05				0.01	7.5	0.0019
0600	0.0	0.0	0.0	0.15				0.02	7.5	0.0020
0615	0.0	0.36	0.12	0.29				0.20	7.5	0.0021
0630	0.0	0.48	0.33	0.34				0.31	7.5	0.0022
0645	0.0	0.60	0.61	0.35				0.43	7.5	0.0022
0700	0.0	0.60	0.68	0.35				0.45	7.5	0.0024
0800	0.0	0.60	0.70	0.35				0.46	7.5	0.0028
0900	0.0	0.60	0.70	0.35				0.46	9.0	0.0035
1200	0.0	0.60	0.70	0.35				0.46	25.0	0.0057
1300	0.0	0.60	0.70	0.35				0.46	31.0	0.0067
1330	0.30	0.60	0.70	0.35				0.53	35.0	0.0072
1345	0.53	0.72	0.73	0.70				0.68	43.0	0.0077
1400	0.53	0.72	0.78	0.72				0.70	50.0	0.0090
1500	0.53	0.72	0.88	0.72				0.73	49.0	0.0104
1515	0.58	0.72	0.88	0.74				0.74	49.0	0.0109
1530	0.59	1.20	0.90	0.78				0.91	49.0	0.0114
1545	0.60	1.44	0.90	0.78				0.99	50.0	0.0119
1600	0.60	1.44	0.90	0.80				1.00	50.0	0.0133
1700	0.60	1.44	0.90	0.80				1.00	54.0	0.0156
1800	0.60	1.44	0.90	0.80				1.00	59.0	0.0172
1815	0.68	1.44	0.90	0.89				1.03	61.0	0.0178
1830	0.68	1.44	1.21	1.08				1.15	62.0	0.0185
1845	1.23	1.56	1.26	1.23				1.39	70.0	0.0193
1900	1.80	1.80	1.56	1.24				1.64	99.0	0.0203
1915	1.82	1.92	1.60	1.24				1.70	143.0	0.0219
1930	1.89	1.92	1.60	1.24				1.72	152.0	0.0235
1945	1.98	1.92	1.60	1.24				1.74	173.0	0.0253
2000	2.04	1.92	1.60	1.24				1.75	180.0	0.0302
2100	2.04	1.92	1.60	1.24				1.75	248.0	0.0408
2200	2.04	1.92	1.60	1.24				1.75	296.0	0.0535
2300	2.04	1.92	1.60	1.24				1.75	335.0	0.0679
2400	2.04	1.92	1.60	1.24				1.75	343.0	0.0762
JUNE 7										
0000	2.04	1.92	1.60	1.24				1.75	344.0	0.0762
0015	2.04	1.92	1.60	1.27				1.75	343.0	0.0808
0030	2.04	1.92	1.65	1.27				1.77	340.0	0.0844
0045	2.04	1.92	1.65	1.39				1.79	335.0	0.0880

STA. NO. 08075900 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

GREENS BAYOU AT U.S. HWY. 75 NEAR HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
	5900	5780	2038	298						
JUNE 7										
0100	2.04	1.92	1.65	1.48				1.80	324.0	0.0915
0115	2.04	1.92	1.65	1.85				1.85	318.0	0.0949
0130	2.09	2.16	1.67	2.04				1.98	313.0	0.0983
0145	2.72	2.16	1.70	2.07				2.13	310.0	0.1016
0200	2.94	2.28	2.05	2.15				2.34	362.0	0.1055
0215	3.70	2.64	2.50	2.85				2.86	463.0	0.1105
0230	4.06	3.00	2.68	3.02				3.14	627.0	0.1172
0245	4.44	3.24	2.90	3.22				3.40	841.0	0.1262
0300	4.64	3.24	3.00	3.28				3.48	1080.0	0.1378
0315	4.84	3.36	3.12	3.35				3.61	1420.0	0.1530
0330	4.97	3.48	3.26	3.46				3.74	1690.0	0.1712
0345	5.06	3.60	3.32	3.53				3.83	1920.0	0.1918
0400	5.12	3.60	3.38	3.54				3.86	2100.0	0.2481
0500	5.13	3.60	3.38	3.54				3.86	2510.0	0.3155
0515	5.15	3.60	3.39	3.56				3.87	2520.0	0.3695
0600	5.17	3.60	3.39	3.56				3.88	2530.0	0.4646
0700	5.17	3.60	3.40	3.56				3.88	2450.0	0.5697
0800	5.17	3.60	3.40	3.56				3.88	2250.0	0.7146
1000	5.17	3.60	3.40	3.56				3.88	1730.0	0.8631
1200	5.17	3.60	3.40	3.56				3.88	1350.0	1.0080
1500	5.17	3.60	3.40	3.56				3.88	1000.0	1.1368
1800	5.17	3.60	3.40	3.56				3.88	760.0	1.2346
2100	5.17	3.60	3.40	3.56				3.88	524.0	1.2965
2330	5.17	3.60	3.40	3.56				3.88	385.0	1.3213
2400	5.17	3.60	3.40	3.56				3.88	366.0	1.3272
JUNE 8										
0000	5.17	3.60	3.40	3.56				3.88	366.0	1.3272
0030	5.17	3.60	3.40	3.56				3.88	346.0	1.3588
0400	5.17	3.60	3.40	3.56				3.88	248.0	1.3934
0700	5.17	3.60	3.40	3.56				3.88	193.0	1.4183
1000	5.17	3.60	3.40	3.56				3.88	158.0	1.4319
1100	5.17	3.60	3.40	3.56				3.88	186.0	1.4398
1200	5.17	3.60	3.40	3.56				3.88	212.0	1.4489
1300	5.17	3.60	3.40	3.56				3.88	197.0	1.4574
1400	5.17	3.60	3.40	3.56				3.88	157.0	1.4675
1600	5.17	3.60	3.40	3.56				3.88	118.0	1.4776
1800	5.17	3.60	3.40	3.56				3.88	96.0	1.4879
2100	5.17	3.60	3.40	3.56				3.88	78.0	1.4971
2330	5.17	3.60	3.40	3.56				3.88	65.0	1.5013
2400	5.17	3.60	3.40	3.56				3.88	63.0	1.5023
JUNE 9										

STA. NO. 08075900 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

GREENS BAYOU AT U.S. HWY. 75 NEAR HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT3/S	ACCUM. RUNOFF IN.
	5900	5780	2038	298						
JUNE 9										
0000	5.17	3.60	3.40	3.56				3.88	63.0	1.5023
0030	5.17	3.60	3.40	3.56				3.88	63.0	1.5108
0600	5.17	3.60	3.40	3.56				3.88	48.0	1.5226
1200	5.17	3.60	3.40	3.56				3.88	38.0	1.5324
1800	5.17	3.60	3.40	3.56				3.88	29.0	1.5396
2330	5.17	3.60	3.40	3.56				3.88	25.0	1.5428
2400	5.17	3.60	3.40	3.56				3.88	25.0	1.5432
JUNE 10										
0000	5.17	3.60	3.40	3.56				3.88	25.0	1.5432
0030	5.17	3.60	3.40	3.56				3.88	25.0	1.5482
0900	5.17	3.60	3.40	3.56				3.88	19.0	1.5577
2400	5.17	3.60	3.40	3.56				3.88	18.0	1.5635

SAN JACINTO RIVER BASIN

08076000 GREENS BAYOU NEAR HOUSTON, TX

LOCATION.--Lat 29°55'05", long 95°18'24", Harris County, Hydrologic Unit 12040104, on left bank at downstream side of bridge on U.S. Highway 59, 10.5 mi (16.9 km) northeast of Houston, 12.0 mi (19.3 km) upstream from Halls Bayou, and 23.4 mi (37.7 km) upstream from mouth.

DRAINAGE AREA.--69.6 mi^2 (180.3 km^2). Prior to Oct. 1, 1977, 72.7 mi^2 (188.3 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to current year.

REVISED RECORDS.--WSP 1732. Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 0.66 ft (0.201 m) below National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records poor except those for January and June, which are fair. Channel rectified during the water years 1974-75. No known diversion above station. Low flow is sustained by Houston Light and Power Co. effluent, which is obained from ground-water sources. Recording rain gage at station.

AVERAGE DISCHARGE.--26 years, 53.1 ft^3/s (1.504 m^3/s), 38,470 acre-ft/yr (47.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,730 ft^3/s (219 m^3/s) Apr. 18, 1976, gage height, 61.92 ft (18.873 m); maximum gage height, 65.75 ft (20.041 m) Sept. 12, 1961 (prior to channel rectification); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft^3/s (34.0 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
aNov. 29	2230	123	3.48	46.67	14.225
Dec. 13	1430	1,920	54.4	55.55	16.932
aJan. 16	1900	2,400	68.0	56.95	17.358
Jan. 19	0530	1,800	51.0	55.18	16.819
aJune 7	0700	*3,790	107	61.99	18.895

a Water-quality samples were obtained during this flood event.

Minimum daily discharge, 8.8 ft^3/s (0.25 m^3/s) Dec. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	45	38	15	133	22	18	15	118	35	22	218
2	16	103	17	33	62	22	18	15	306	32	18	303
3	16	37	13	23	43	69	17	78	175	17	16	32
4	16	24	12	16	35	34	18	30	62	15	15	23
5	17	21	13	14	27	25	17	19	20	15	15	90
6	17	19	12	15	23	26	19	15	239	28	16	21
7	17	19	11	15	156	140	19	16	2470	18	16	16
8	17	185	11	24	776	90	21	15	533	15	14	18
9	31	180	11	18	266	42	20	14	106	14	13	17
10	25	42	9.2	14	150	30	20	12	32	14	12	127
11	28	21	8.8	109	86	23	24	13	20	17	12	431
12	23	16	10	308	338	21	26	14	16	22	30	122
13	20	14	869	60	282	23	29	13	15	16	100	81
14	18	13	210	26	490	25	20	11	47	15	150	471
15	17	21	39	18	85	22	17	12	30	14	50	86
16	17	28	21	921	79	19	16	13	19	14	30	30
17	14	16	16	575	210	18	18	13	19	14	20	18
18	13	14	14	380	187	19	19	14	16	12	17	16
19	13	14	14	1180	79	18	16	14	16	16	15	18
20	12	15	15	271	53	19	17	13	16	14	14	16
21	12	245	10	119	36	20	15	16	15	12	25	22
22	15	76	10	136	33	19	17	13	14	50	30	18
23	21	21	13	109	30	25	19	12	15	35	20	17
24	19	16	12	262	26	87	16	13	15	25	17	14
25	16	14	10	199	25	30	16	12	17	20	15	13
26	15	12	9.2	99	24	21	14	16	15	25	14	12
27	14	12	12	54	23	18	14	24	21	20	13	13
28	13	13	20	36	23	17	15	14	28	80	15	16
29	13	60	67	27	---	19	18	22	22	250	16	14
30	13	76	24	34	---	19	16	134	21	60	36	13
31	14	---	16	42	---	18	---	56	---	30	86	---
TOTAL	527	1392	1567.2	5152	3780	1000	549	691	4458	964	882	2306
MEAN	17.0	46.4	69.9	166	135	32.3	18.3	22.3	149	31.1	28.5	76.9
MAX	31	245	869	1180	776	140	29	134	2470	250	150	471
MIN	12	12	8.8	14	23	17	14	11	14	12	12	12
AC-FT	1050	2760	3070	10220	7500	1980	1090	1370	8840	1910	1750	4570
(††)	.57	3.29	2.39	7.31	3.31	1.36	.45	2.28	6.63	2.64	2.25	5.56

CAL YR 1977 TOTAL 18386.7 MEAN 50.4 MAX 1350 MIN 5.4 AC-FT 36470 †† 29.70
WTR YR 1978 TOTAL 23248.2 MEAN 63.7 MAX 2470 MIN 8.8 AC-FT 46110 †† 37.74

†† Weighted-mean rainfall, in inches, based on four rain gages.

SAN JACINTO RIVER BASIN

08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: Octobe 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)
NOV											
23...	1000	21	649	--	18.0	--	--	--	--	--	--
30...	0920	73	360	7.9	14.0	80	300	8.3	83	20	180000
DEC											
27...	1250	12	893	--	12.5	--	--	--	--	--	--
JAN											
17...	1120	*19	205	8.0	8.0	280	300	8.8	77	4.8	260000
FEB											
02...	1250	59	460	--	8.5	--	--	--	--	--	--
APR											
26...	0930	14	840	7.9	19.5	10	60	6.2	70	12	58000
JUN											
06...	1100	15	770	--	--	--	--	--	--	--	--
06...	2300	1490	155	7.0	24.0	260	400	6.0	73	8.7	150000
07...	0050	1510	174	--	24.0	--	--	--	--	--	--
07...	1135	3210	135	6.9	22.5	180	400	6.9	81	11	520000
08...	1100	483	207	7.2	25.0	240	220	5.5	68	8.4	100000
08...	1407	390	211	--	--	--	--	--	--	--	--
09...	1105	97	307	7.1	27.5	140	120	5.8	74	10	110000
09...	1225	95	304	--	--	--	--	--	--	--	--
JUL											
10...	1115	14	909	7.6	31.0	40	80	7.5	101	9.3	10000
20...	1230	14	897	--	31.5	--	--	--	--	--	--
AUG											
08...	1345	14	883	7.8	32.0	50	80	7.7	105	6.4	9000
29...	1245	16	995	7.5	26.5	60	100	6.6	84	13	30000
SEP											
25...	1045	12	812	7.5	24.5	40	--	6.6	80	13	40000

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)
NOV										
23...	--	--	--	--	--	--	--	--	--	--
30...	29000	26000	--	--	--	--	--	--	--	--
DEC										
27...	--	--	--	--	--	--	--	--	--	--
JAN										
17...	31000	26000	--	--	--	--	--	--	--	--
FEB										
02...	--	--	--	--	--	--	--	--	--	--
APR										
26...	8700	110	210	0	69	9.3	86	2.6	6.4	300
JUN										
06...	--	--	--	--	--	--	--	--	--	--
06...	45000	39000	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
07...	50000	49000	56	0	19	2.0	5.6	.3	1.9	68
08...	8700	3200	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--
09...	4000	2600	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
JUL										
10...	2000	62	240	30	79	9.1	90	2.6	6.9	250
20...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	500	14	--	--	-	--	--	--	--	--
29...	3600	94	220	10	75	8.6	110	3.2	7.6	260
SEP										
25...	580	140	--	--	--	--	--	--	--	--

08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)
NOV										
23...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	696	106	.71	.09
DEC										
27...	--	--	--	--	--	--	--	--	--	--
JAN										
17...	--	--	--	--	--	--	988	128	.26	.02
FEB										
02...	--	--	--	--	--	--	--	--	--	--
APR										
26...	0	35	93	.4	29	476	116	27	1.6	.55
JUN										
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	1200	128	.17	.04
07...	--	--	--	--	--	--	--	--	--	--
07...	0	4.9	4.7	.2	5.7	78	1560	176	.15	.02
08...	--	--	--	--	--	--	600	116	.06	.02
08...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	460	92	.14	.08
09...	--	--	--	--	--	--	--	--	--	--
JUL										
10...	0	72	100	.4	35	516	147	32	1.4	.43
20...	--	--	--	--	--	--	--	--	--	--
AUG										
08...	--	--	--	--	--	--	177	25	1.5	.35
29...	0	110	110	.4	38	588	180	18	2.1	.42
SEP										
25...	--	--	--	--	--	--	84	33	2.4	.58

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)
NOV										
23...	--	--	--	--	--	--	--	--	36	2.1
30...	.80	.97	1.3	2.3	2.0	11	--	.10	--	--
DEC										
27...	--	--	--	--	--	--	--	--	34	1.1
JAN										
17...	.28	.25	1.2	1.4	.51	14	--	.10	--	--
FEB										
02...	--	--	--	--	--	--	--	--	130	21
APR										
26...	2.1	1.5	2.0	3.5	3.2	7.7	--	.20	--	--
JUN										
06...	--	--	--	--	--	--	--	--	217	9.0
06...	.21	.17	1.3	1.5	.42	15	--	.00	--	--
07...	--	--	--	--	--	--	--	--	103	420
07...	.17	.23	1.4	1.6	.46	14	--	.00	--	--
08...	.08	.20	.90	1.1	.23	13	--	.00	--	--
08...	--	--	--	--	--	--	--	--	702	739
09...	.22	.52	1.2	1.7	.03	14	--	.00	--	--
09...	--	--	--	--	--	--	--	--	634	163
JUL										
10...	1.8	1.4	2.0	3.4	4.2	7.0	1	.10	--	--
20...	--	--	--	--	--	--	--	--	138	5.6
AUG										
08...	--	2.1	1.5	--	3.4	9.0	--	.30	--	--
29...	2.5	2.6	1.8	4.4	5.0	6.8	1	.00	--	--
SEP										
25...	3.0	2.2	1.2	3.4	4.4	7.3	--	.30	--	--

SAN JACINTO RIVER BASIN

08076000 GREENS BAYOU NEAR HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
JUL							
10...	1115	13	500	0	10	4	20
AUG							
02...	1410	13	--	0	0	3	20
29...	1245	5	200	0	0	4	20

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
JUL						
10...	0	0	.0	1	0	10
AUG						
02...	0	0	.0	1	0	10
29...	0	0	.0	0	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)
JUL									
10...	1115	.0	.00	.00	.0	.00	.00	.00	.38
AUG									
02...	1410	.0	.00	.00	.1	.00	.06	.00	.70
29...	1245	.0	.00	.00	.0	.00	.00	.00	.38

DATE	DI- ELDRIN TOTAL (UG/L)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)
JUL									
10...	.00	.00	.00	.00	.00	.00	.01	.00	.00
AUG									
02...	.01	.00	.00	.00	.00	.00	.02	.03	.00
29...	.00	.00	.00	.00	.00	.00	.01	.00	.00

DATE	METHYL TRI- THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUL								
10...	.00	.00	.00	0	.00	[illegible]	.01	.00
AUG								
02...	.00	.00	.00	0	.00	.33	.03	.01
29...	.00	.00	.00	0	.00	.02	.02	.02

Hydrologic Data for Urban Studies in the Houston, Texas Metropolitan Area, 1978

By James S. Hutchison and Jay F. Weigel

U.S. GEOLOGICAL SURVEY

Prepared in cooperation with the City of Houston

October 1980

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

H. William Menard, Director

Reproduced by the Texas Department of Water Resources as part of the continuing program of cooperation in water-resources investigations between the Department and the U.S. Geological Survey

CONTENTS

Page

Metric conversions-- 8
Introduction-- 9
Location and description of the area---------------------------------- 10
Data-collection methods--- 12
    Precipitation data-- 12
    Runoff data--- 19
    Water-quality data-- 19
Selected references--- 22
Compilation of data--- 23
San Jacinto River basin:
Buffalo Bayou:
Barker Reservoir near Addicks, Tex.----------------------------------- 24
South Mayde Creek:
Addicks Reservoir near Addicks, Tex.---------------------------------- 27
Buffalo Bayou near Addicks, Tex.-------------------------------------- 30
Buffalo Bayou at West Belt Drive, Houston, Tex.----------------------- 33
Buffalo Bayou at Piney Point, Tex.------------------------------------ 34
Buffalo Bayou at Houston, Tex.-- 37
Whiteoak Bayou:
Whiteoak Bayou drainage basin--- 40
Cole Creek drainage basin--- 42
Cole Creek at Deihl Road, Houston, Tex.------------------------------- 44
Brickhouse Gully drainage basin--------------------------------------- 45
Brickhouse Gully at Clarblak Street, Houston, Tex.-------------------- 48
    Storm of June 6-7, 1978--- 49
    Storm of July 28, 1978-- 52
Brickhouse Gully at Costa Rica Street, Houston, Tex.------------------ 53
    Storm of June 6-7, 1978--- 56
    Storm of July 28, 1978-- 58
Whiteoak Bayou at Houston, Tex.--------------------------------------- 60
    Storm of June 6-7, 1978--- 64
Little Whiteoak Bayou at Houston, Tex.-------------------------------- 67
Brays Bayou:
Brays Bayou drainage basin-- 69
Brays Bayou at Alief, Tex.-- 72
    Storm of June 6-7, 1978--- 73
Keegans Bayou drainage basin-- 75
Keegans Bayou at Keegan Road near Houston, Tex.----------------------- 78
    Storm of June 7, 1978--- 79
Keegans Bayou at Roark Road near Houston, Tex.------------------------ 80
    Storm of June 7, 1978--- 84
Brays Bayou at Gessner Drive, Houston, Tex.--------------------------- 86
    Storm of June 6-7, 1978--- 87

CONTENTS

Page

Compilation of data--Continued
San Jacinto River basin:--Continued
Brays Bayou:--Continued
Bintliff Ditch drainage basin-- 90
Bintliff Ditch at Bissonnet Street, Houston, Tex.---------------------- 93
    Storm of June 7, 1978-- 94
Brays Bayou at Houston, Tex.--- 95
Brays Bayou at Scott Street, Houston, Tex.----------------------------- 98
Sims Bayou:
Sims Bayou drainage basin--100
Sims Bayou at Hiram Clarke Street, Houston, Tex.-----------------------102
Sims Bayou at Martin Luther King Boulevard, Houston, Tex.--------------106
Sims Bayou at Houston, Tex.--107
Berry Bayou drainage basin---110
Berry Bayou at Gilpin Street, Houston, Tex.----------------------------113
    Storm of June 27, 1978---114
Berry Bayou at Forest Oaks Street, Houston, Tex.-----------------------115
Vince Bayou:
Vince Bayou drainage basin---117
Vince Bayou at Pasadena, Tex.--118
Hunting Bayou:
Hunting Bayou drainage basin---121
Hunting Bayou at Falls Street, Houston, Tex.---------------------------124
    Storm of June 6-7, 1978--127
Hunting Bayou at Interstate Highway 610, Houston, Tex.-----------------129
    Storm of June 6-7, 1978--133
Greens Bayou:
Greens Bayou drainage basin--136
Greens Bayou at Cutten Road near Houston, Tex.-------------------------139
Greens Bayou at U.S. Highway 75 near Houston, Tex.---------------------140
    Storm of June 6-7, 1978--141
Greens Bayou near Houston, Tex.--144
    Storm of June 6-7, 1978--148
Halls Bayou drainage basin---151
Halls Bayou at Deertrail Street near Houston, Tex.---------------------154
    Storm of June 6-7, 1978--155
Halls Bayou at Houston, Tex.---158
    Storm of June 6-7, 1978--162
Greens Bayou at Ley Road, Houston, Tex.--------------------------------165
Clear Creek basin:
Clear Creek near Pearland, Tex.--167

CONTENTS--Continued

Page

Compilation of data--Continued
Daily and monthly rainfall summary for gages north of Buffalo Bayou----------173
Daily and monthly rainfall summary for gages south of Buffalo Bayou----------178
Monthly rainfall-data summary in the Houston metropolitan area, National Weather Service Stations, 1978 water year----------184

ILLUSTRATIONS

Page

Figure 1. Map showing locations of data-collection sites in the Houston urban study area---------------------------- 13
2. Graph showing rainfall at four drainage basins in the Houston metropolitan area, 1978 water year--- 14
3. Graph showing runoff from three drainage basins in the Houston metropolitan area, 1978 water year, and average runoff for the period 1953-70 ---------- 20
4-14. Map showing locations of data-collection sites in and near the:
4. Whiteoak Bayou drainage basin------------------------------- 41
5. Cole Creek drainage basin----------------------------------- 43
6. Brickhouse Gully drainage basin----------------------------- 46
7. Brays Bayou drainage basin---------------------------------- 70
8. Keegans Bayou drainage basin-------------------------------- 76
9. Bintliff Ditch drainage basin------------------------------- 91
10. Sims Bayou drainage basin-----------------------------------101
11. Berry Bayou and Vince Bayou drainage basins-----------------111
12. Hunting Bayou drainage basin--------------------------------122
13. Greens Bayou drainage basin---------------------------------137
14. Halls Bayou drainage basin----------------------------------152

TABLES

Page

Table 1. Percent increases in development in various drainage areas in the Houston metropolitan area from 1969 to 1976 ---- 11

2. Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area ---- 15

3-11. Storm rainfall-runoff data, 1978 water year,:

3. Brickhouse Gully ---- 47

4. Whiteoak Bayou ---- 59

5. Brays Bayou ---- 71

6. Keegans Bayou ---- 77

7. Bintliff Ditch ---- 92

8. Berry Bayou ---- 112

9. Hunting Bayou ---- 123

10. Greens Bayou ---- 138

11. Halls Bayou ---- 153

12. Recording and nonrecording rain gages in the Houston area at sites other than stream-gaging stations ---- 171

METRIC CONVERSIONS

For those readers interested in using the metric system, the inch-pound units of measurements used in this report may be converted to metric units by using the following conversion factors:

From			To obtain	
Unit	Abbreviation	Multiply by	Unit	Abbreviation
inch	in	25.4	millimeter	mm
foot	ft	0.3048	meter	m
mile	mi	1.609	kilometer	km
square mile	mi^2	2.590	square kilometer	km^2
cubic foot per second	ft^3/s	0.02832	cubic meter per second	m^3/s
foot per mile	ft/mi	0.189	meter per kilometer	m/km
acre-foot	--	1233	cubic meter	m^3
		0.001233	cubic hectometer	hm^3

HYDROLOGIC DATA FOR URBAN STUDIES IN THE HOUSTON, TEXAS, METROPOLITAN AREA

1978

By

James S. Hutchison and Jay F. Weigel
U.S. Geological Survey

INTRODUCTION

Hydrologic investigations of urban watersheds in Texas were begun by the U.S. Geological Survey in 1954. Studies are now in progress in Austin, Dallas, Dallas County, Fort Worth, Houston, and San Antonio.

The U.S. Geological Survey, in cooperation with the city of Houston, began studies in the Houston metropolitan area in 1964. The program was expanded in 1968 to include collection of water-quality data. The objectives of the Houston urban-hydrology study are as follows:

1. To determine, on the basis of historical data and hydrologic analyses, the magnitude and frequency of flood peaks and flood volumes.

2. To determine the effect of urban development on flood peaks and volumes.

3. To ascertain the variation in water quality for different flow conditions and different seasons.

This report, the fifteenth in a series of reports to be published annually, is primarily applicable to objective 2. The report presents hydrologic data collected in the Houston urban area for the 1978 water year (October 1, 1977 to September 30, 1978).

A report by Johnson and Sayre (1978) utilized records collected from 1965 to 1969 to make a study of the effects of urbanization on floods in the Houston area. The report also summarizes various basin parameters. A report by Waddell, Massey, and Jennings (1979) presents data on computed runoff from the Houston area and computed concentrations and loads of selected water-quality constituents combined in the inflow to Galveston Bay. The study utilized a variation of the "STORM" model developed by the Hydrologic Engineering Center of the U.S. Army Corps of Engineers. A report prepared by Liscum and Massey (1980) presents a technique for estimating the magnitude and frequency of floods in the Houston area from drainage areas, bank-full conveyance, and percentage of urban development.

To facilitate the publication and distribution of this report at the earliest feasible time, some material has been included that does not conform to the formal publications standards of the U.S. Geological Survey.

LOCATION AND DESCRIPTION OF THE AREA

The Houston study area, which is located about 45 miles from the Gulf of Mexico, is on an almost level plain. The land surface in the area increases in altitude from 35 feet above the National Geodetic Vertical Datum of 1929 (NGVD) in the southeast to 135 feet in the northwest.

Records show that the entire Houston urban study area is being developed rapidly. Percent increases in development in various drainage-basin areas in the Houston metropolitan area from 1969 to 1976 are given in table 1.

Soils in the area are predominately clay, clay loams, and fine sandy loams of low permeability.

The major stream draining the area is Buffalo Bayou, a tributary of the San Jacinto River. Buffalo Bayou is regulated by the Barker and Addicks flood-detention reservoirs near the western limits of the area. From these reservoirs, Buffalo Bayou meanders east and is fed by five major tributaries: Whiteoak, Brays, Sims, Hunting, and Greens Bayous. The drainage area of Buffalo Bayou, excluding the area above the flood-detention reservoirs, is about 810 square miles.

The climate of the Houston area is characterized by short mild winters, long hot summers, high relative humidity, and prevailing southeasterly winds. The mean annual temperature (1941-70) is 68.9°F (20.5°C); the lowest temperature recorded was 5°F (-15°C) in 1930; and the maximum recorded was 108°F (42°C) in 1909.

The 30-year average (1941-70) rainfall for Houston is 48.19 inches, which is distributed uniformly throughout the year. The maximum annual rainfall was 72.86 inches in 1900; and the minimum was 17.66 inches in 1917.

Table 1.--Percent increases in development in various drainage areas in the Houston metropolitan area from 1969 to 1976

Station no.	Station name	1969 a/	1976 b/	Percent increase
08074150	Cole Creek at Diehl Road	34.3	54.0	19.7
08074200	Brickhouse Gully at Clarblak Street	34.6	54.7	20.1
08074250	Brickhouse Gully at Costa Rica Street	61.0	77.5	16.5
08074500	Whiteoak Bayou at Houston	45.2	57.7	12.5
08074780	Keegans Bayou at Keegan Road	21.0	44.9	23.9
08074800	Keegans Bayou at Roark Road	26.3	55.7	29.4
08075000	Brays Bayou at Houston	44.6	64.4	19.8
08075400	Sims Bayou at Hiram Clarke Street	40.4	69.3	28.9
08075500	Sims Bayou at Houston	50.2	73.7	23.5
08075550	Berry Bayou at Gilpin Street	58.0	71.8	13.8
08075650	Berry Bayou at Forest Oaks Street	72.9	85.3	12.4
08075760	Hunting Bayou at Falls Street	95.9	98.9	3.0
08075770	Hunting Bayou at Interstate Highway 610	83.3	95.0	11.7
08075780	Greens Bayou at Cutten Road	24.4	47.2	22.8
08076000	Greens Bayou near Houston	26.3	43.9	17.6
08076200	Halls Bayou at Deertrail Street	30.4	52.8	22.4
08076500	Halls Bayou at Houston	60.3	74.1	13.8
08077100	Clark Creek Tributary at Hall Road	82.0	93.2	11.2

a/ Johnson and Sayre, 1973.

b/ Liscum and Massey, 1980.

DATA-COLLECTION METHODS

The drainage basins and locations of hydrologic-instrument installations and water-quality sampling sites in the Houston urban study area are shown on figure 1. The locations of hydrologic instruments and data-collection sites in the individual basins are shown on figures 4-14.

Precipitation Data

Precipitation data are based on 35 recording rain gages in the Houston metropolitan area. The gages are distributed throughout the drainage basins to measure total precipitation and to define rainfall intensities.

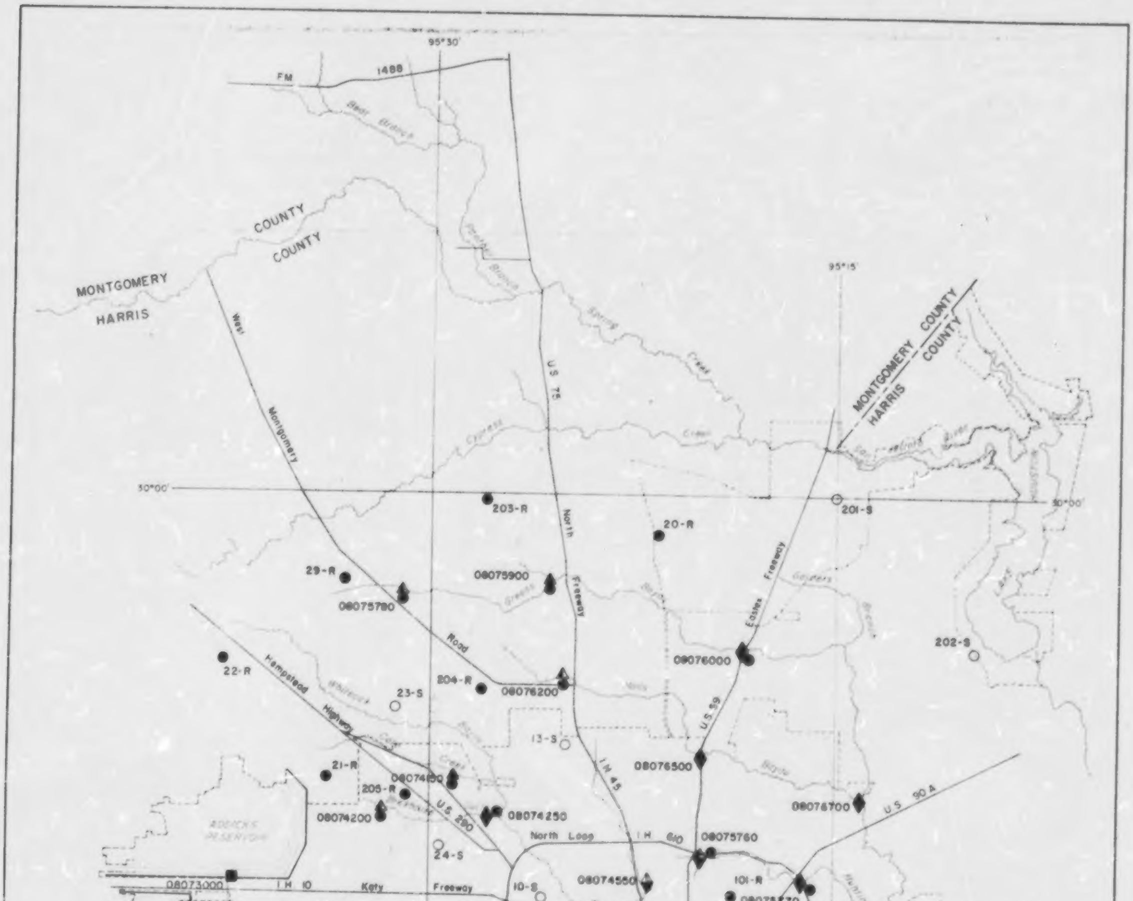
Additional rainfall data are available from rain-gage networks operated by the National Weather Service and are given in the section "Compilation of Data". Locations of recording and nonrecording rain gages at sites other than stream-gaging stations are given in table 12.

Precipitation at individual gages and weighted precipitation in each study basin is given in the section "Compilation of data." Daily and monthly rainfall are also given in the section "Compilation of data."

Weighted-mean precipitation factors are given in table 2. Weighted-mean precipitation for a study area is determined by the Thiessen method as described by Linsley, Kohler, and Paulhus (1949). For example, the weighted-mean precipitation for the drainage basin upstream from the Cole Creek at the Deihl Road gaging station could be computed as follows: Multiply the recorded precipitation at the rain gage at station 08074150 by 0.15; to that value add the recorded precipitation at the rain gage at station 205R multiplied by 0.20; to that value add the recorded precipitation at the rain gage at station 23S multiplied by 0.15; and to that value add the recorded precipitation at the rain gage at station 21R multiplied by 0.50.

Rainfall for the current year was unevenly distributed over the area. Individual station totals ranged from 24.8 inches at the rain gage at Furman Street (station 305R to 48.0 inches at the rain gage at station 08075770, Hunting Bayou at Interstate Highway 610. Figure 2 shows the comparison of accumulated monthly rainfall for the 1978 water year over four widely separated drainage basins with the 30-year average (1941-70) of 48.19 inches for Houston.

Only three storms occurring during the 1978 water year produced rainfall totals over 2.5 inches. The storms of May 29-30 and June 6-7 were confined to the area north of Buffalo Bayou. The storm of July 28 was confined to the northwest part of Houston. Only the storm of June 6-7 at Brickhouse Gully drainage basin produced rainfall totals in excess of 5 inches.



Base from Texas Department of Highways and Public Transportation General Highway Map

FIGURE 1.- Locations of data-collection sites in the Houston urban study area

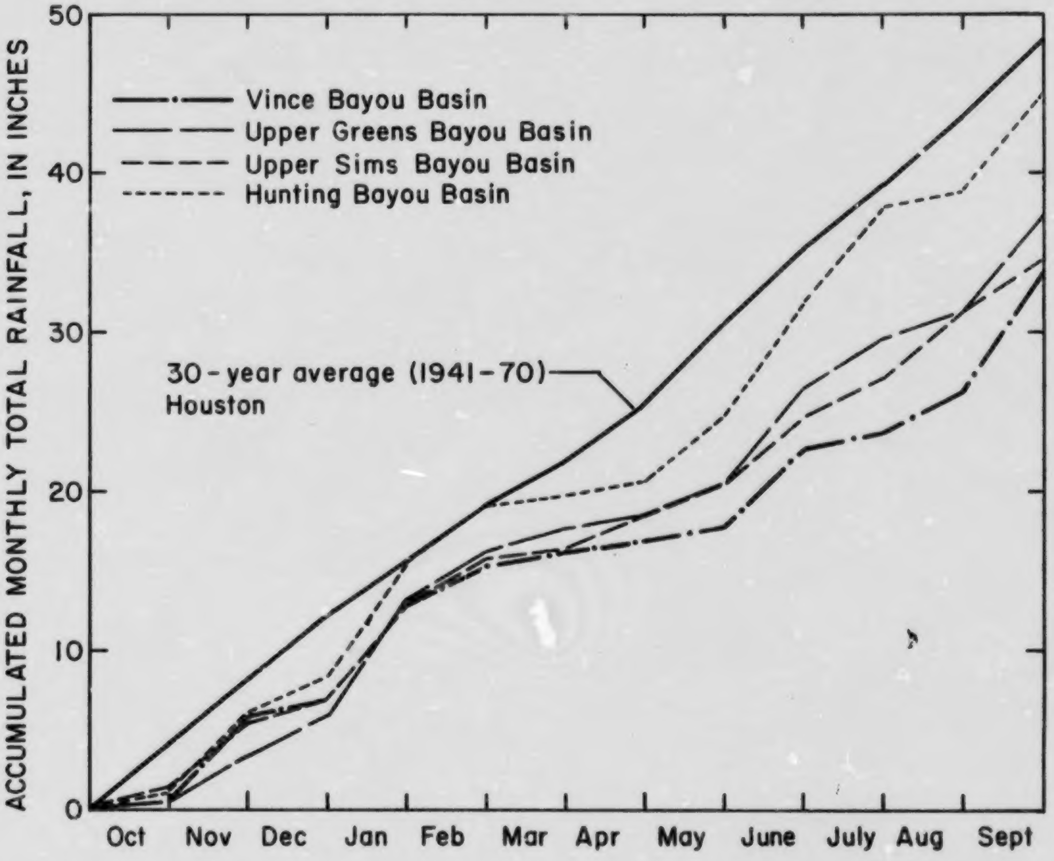


FIGURE 2.-Rainfall at four drainage basins in the Houston metropolitan area, 1978 water year

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08074150	08074150	0.15	No storms	--	--
Cole Creek at	205R	.20	published		
Deihl Road,	23S	.15			
Houston	21R	.50			
08074200	not computed	--	June 6-7, 1978	08074200	1.00
Brickhouse			July 28, 1978	08074200	.30
Gully at				21R	.70
Clarblak					
Street,					
Houston					
08074250	48074250	.10	June 6-7, 1978	08074250	.15
Brickhouse	08074150	.10		08074200	.50
Gully at	205R	.50		08074150	.05
Costa Rica	24S	.15		205R	.30
Street,	21R	.15	July 28, 1978	08074250	.17
Houston				08074200	.30
				08074150	.06
				205R	.30
				21R	.17
08074500	08074250	.10	June 6-7, 1978	08074250	.24
Whiteoak Bayou	08074150	.15		08074200	.05
at Houston	29R	.20		08074150	.10
	23S	.25		205R	.15
	21R	.15		204R	.17
	10S	.15		29R	.14
				22R	.15
08074760	Not computed	--	June 6-7, 1978	33R	.30
Brays Bayou				32R	.70
at Alief					
08074780	Not computed	--	June 7	08074780	.35
Keegans Bayou				303R	.65
at Keegan					
Road, Houston					

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08074800 Keegans Bayou at Roark Road, Houston	08074800	0.45	June 7, 1978	08074800	0.11
	303R	.55		08074780	.43
				303R	.46
08074810 Brays Bayou at Gessner Drive, Houston	Not computed	--	June 6-7, 1978	08074850	.10
				08074800	.20
				08074780	.15
				303R	.15
				33R	.05
				32R	.35
08074850 Bintliff Ditch at Bissonnet Street, Houston	Not computed	--	June 7, 1978	08074850	.55
				39R	.45
08075000 Brays Bayou at Houston	08074800	.20	No storms published	--	--
	308R	.10			
	303R	.05			
	35S	.25			
	34S	.05			
	33R	.05			
	32R	.25			
	31R	.05			
08075400 Sims Bayou at Hiram Clarke Street, Houston	08075400	.40	No storms published	--	--
	304R	.60			
08075470 Sims Bayou at Martin Luther King Blvd., Houston	Not computed	--	No storms published	--	--

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08075500 Sims Bayou at Houston	08075500 08075400 08075470 305R 304R 42S	0.05 .25 .20 .25 .20 .05	No storms published	--	--
08075550 Berry Bayou at Gilpin Street, Houston	Not computed	--	June 27, 1978	08075550 402R	.85 .15
08075650 Berry Bayou at Forest Oaks Street, Houston	Not computed	--	No storms published	--	--
08075730 Vince Bayou at Pasadena	08075650 401R	.25 .75	No storms published	--	--
08075760 Hunting Bayou at Falls Street, Houston	Not computed	--	June 6-7, 1978	08075760	1.00
08075770 Hunting Bayou at Interstate Highway 610, Houston	08075770 101R	.20 .80	June 6-7, 1978	08075770 08075760 101R	.15 .65 .20
08075780 Greens Bayou at Cutten Road near Houston	Not computed	--	No storms published	--	--

See footnotes at end of table.

Table 2.--Weighted-mean precipitation factors for drainage basins above stations in the Houston metropolitan area--Continued

Station number and name	Monthly and yearly totals		Date of storm	Storm totals	
	Rain gage 1/	Weighted-mean precipitation factors 2/		Rain gage 1/	Weighted-mean precipitation factors 2/
08075900 Greens Bayou at U.S. Highway 75, Houston	08075900	0.25	June 6-7, 1978	08075900	0.22
	204R	.10		08075780	.33
	203R	.40		203R	.30
	29R	.25		29R	.15
08076000 Greens Bayou near Houston	08076000	.15	June 6-7, 1978	08076200	.04
	08075900	.45		08076000	.15
	203R	.20		08075900	.30
	29R	.20		08075780	.15
				204R	.01
				203R	.15
				29R	.10
				20R	.10
08076200 Halls Bayou at Deertrail Street near Houston	Not computed	--	June 6-7, 1978	08076000	.55
				08075900	.05
				204R	.40
08076500 Halls Bayou at Houston	08076000	.20	June 6-7, 1978	08076200	.60
	08075900	.05		08076000	.30
	204R	.25		08075900	.01
	13S	.50		204R	.09

1/ See table 12 for locations of stations other than stream-gaging stations.
2/ See section on "Precipitation Data" for explanation of use of weighted-mean precipitation factors.

Runoff Data

Runoff data are based on discharge measurements and stage records at 18 continuous-record stream-gaging stations, 12 flood-hydrograph partial-record stations, and 2 reservoir-content stations.

Annual records of either daily discharge or maximum gage height at continuous-record stream-gaging stations, maximum discharge at flood-hydrograph partial-record stations, and daily contents of reservoirs are given in the section "Compilation of data."

Figure 3 shows the accumulated monthly runoff from three basins for the 1978 water year and the average runoff for the period 1953-70. The average rainfall for the 1953-70 period was 46 inches or approximately equal to the 30-year (1941-70) rainfall average of 48.19 inches at Houston.

Water-Quality Data

Water-quality data-collection sites in the Houston metropolitan area are shown on figure 1. Water-quality data and streamflow data are presented in downstream order in the section "Compilation of data."

Water-quality data are collected from a wide range of discharge representing various flow conditions, and includes determinations for physical, chemical, and biological parameters. Physical determinations include measurements of temperature, pH, turbudity, suspended and volatile solids, and color. Chemical analyses include specific conductance, dissolved oxygen, standard inorganic chemical (major ions), selected nutrient determinations of total organic carbon, nitrogen, phosphorus, and MBAS (methylene blue active substance). Chemical analyses of trace substances include phenols, minor elements, and pesticides. Biological analyses include measurements of BOD (biochemical oxygen demand) and bacteriological analyses for total coliform, fecal coliform, and fecal streptococci.

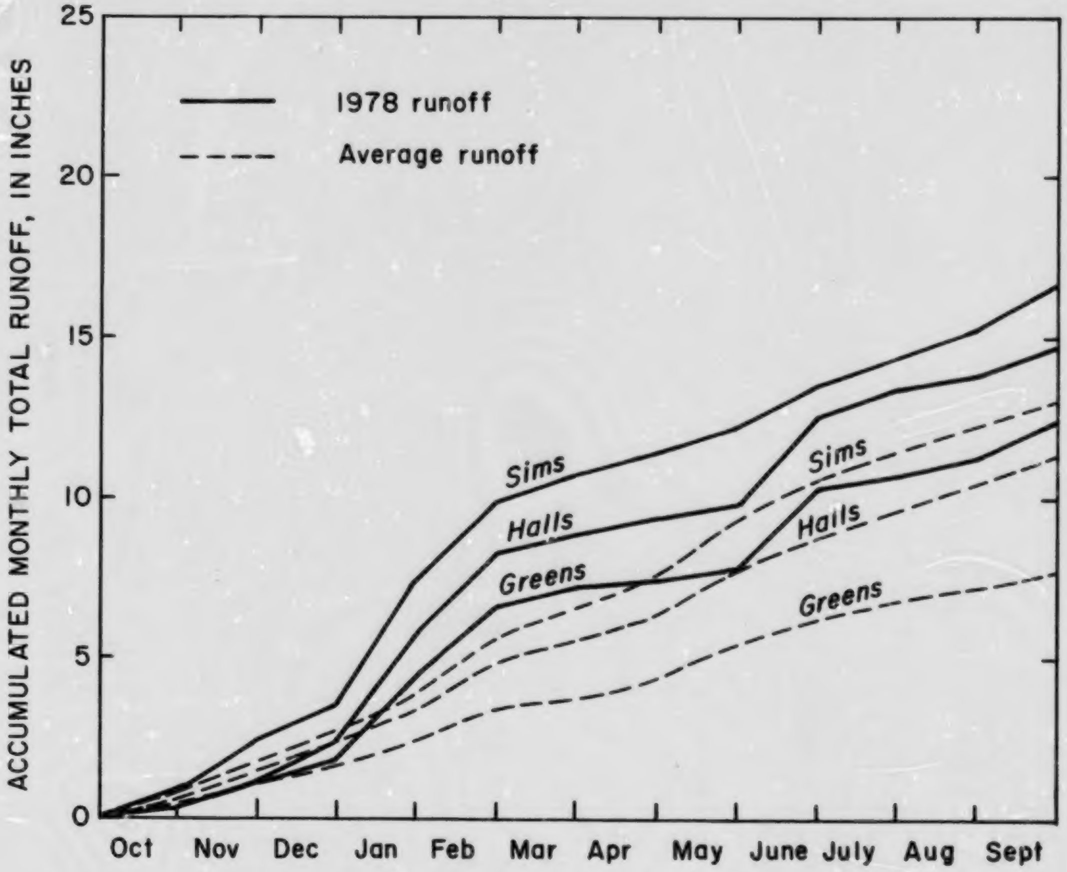


FIGURE 3.-Runoff from three drainage basins in the Houston metropolitan area, 1978 water year, and average runoff for the period 1953-70

Water-quality samples were also collected during major storms to determine the water quality of storm runoff in the Houston metropolitan area. Storm dates and stations where at least three water-quality samples were collected during the storms are:

Station no.	Station name	Date of storm
08074250	Brickhouse Gully at Costa Rica Street, Houston	January 16-17, 1978
08074250	Brickhouse Gully at Costa Rica Street, Houston	May 30-31, 1978
08074550	Little Whiteoak Bayou at Houston	August 28-31, 1978
08075650	Berry Bayou at Forest Oaks Street, Houston	January 16-17, 1978
08075730	Vince Bayou at Pasadena	August 28-31, 1978
08076000	Greens Bayou near Houston	June 6-9, 1978
08076700	Greens Bayou at Ley Road, Houston	December 13-14, 1977
08076700	Greens Bayou at Ley Road, Houston	June 6-9, 1978

SELECTED REFERENCES

Johnson, S. L., and Sayre, D. M., 1978, Effects of urbanization on floods in the Houston, Texas, metropolitan area: U.S. Geological Survey Water-Resources Investigations 3-73, 50 p.

Linsley, R. K., Kohler, M. A., and Paulhus, J. L. H., 1949, Applied hydrology: New York, McGraw-Hill Book Company, Inc., 689 p.

Liscum, Fred, and Massey, B. C., 1980, Technique for estimating the magnitude and frequency of floods in the Houston, Texas, metropolitan area: U.S. Geological Survey Water-Resources Investigations 80-17, 40 p.

U.S. Department of Commerce, Climatography of the United States No. 81 (by State), Monthly normals of temperature, precipitation, and heating and cooling degree days, 1941-70, Texas: National Oceanic and Atmospheric Administration Environmental Data Service, U.S. Department of Commerce publication.

U.S. Geological Survey, 1979, Water resources data for Texas, volume 2: U.S. Geological Survey Water-Data Report, TX-78-2, 515 p.

Waddell, Kidd M., Massey, Bernard C., and Jennings, Marshall E., 1979, Use of the STORM model for estimating the quantity and quality of runoff from the metropolitan area of Houston, Texas: U.S. Geological Survey Water Resources Investigations 79-74, 29 p.

COMPILATION OF DATA

08072500 BARKER RESERVOIR NEAR ADDICKS, TX

LOCATION.--Lat 29°46'11", long 95°38'49", Harris County, Hydrologic Unit 12040104, at dam on Buffalo Bayou, 45 ft (14 m) upstream from reservoir outlet works, 1,160 ft (354 m) upstream from Addicks-Howell county road, 1.1 mi (1.8 km) south of Addicks, and 1.2 mi (1.9 km) upstream from South Mayde Creek.

DRAINAGE AREA.--128 mi² (332 km²). Prior to August 1977, 134 mi² (347 km²). Basin boundary to change due to relocation of drainage ditches. During extreme floods, basin may receive and (or) lose runoff due to basin interchange.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1945 to current year. On October 1973, the upper gage was converted to a flood-hydrograph partial-record station.

REVISED RECORDS.--WDR TX-77-1: Drainage area.

GAGE.--Water-stage recorders. Datum of gage is 0.33 ft (0.101 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--The reservoir is formed by a rolled earthfill dam 72,900 ft (22,200 m) long. The dam was completed Feb. 3, 1946, but was used as early as the spring of 1945 for flood control. The reservoir is operated for flood protection for the city of Houston. The controlled outlet works consist of five concrete conduits, 9 by 7 ft (2.7 by 2.1 m) wide, each controlled by a vertical slide gate. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam..	114.0	-
Ground gage height at ends of dam..................................	107.0	207,000
Design flood...	101.9	127,900
Crest of spillway (invert)...	75.0	0

COOPERATION.--The capacity curve, furnished by the Corps of Engineers, is based on a survey made in 1940.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 39,200 acre-ft (48.3 hm³) May 15, 1968, gage height, 94.60 ft (28.834 m); minimum reservoir was dry at times.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 9,910 acre-ft (12.2 hm³) Jan. 21, gage height, 90.00 ft (27.432 m); minimum, 3.4 acre-ft (4,190 m³) Dec. 10-13, gage height, 75.42 ft (22.988 m).

Capacity table (gage height, in feet, and total contents, in acre-feet)

75.0	1.7	83.0	258
76.0	6.3	84.0	510
77.0	14	85.0	999
78.5	31	86.0	1,830
80.0	55	87.5	3,850
81.0	79	89.0	7,040
82.0	129	90.0	9,910

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	5.6	7.5	3.8	10.0	3.7	3.6	3.6	3.7	6.0	5.8	3.9
2	4.7	7.9	5.5	5.6	8.4	3.7	3.6	3.7	5.8	4.7	6.2	4.8
3	3.9	5.8	4.4	4.6	6.9	3.7	3.6	6.1	70.8	4.4	5.7	7.5
4	4.0	4.2	3.7	4.0	5.7	3.7	3.6	4.7	335.0	4.1	4.7	4.7
5	5.5	3.6	3.5	3.9	4.9	3.7	3.6	3.7	482.0	4.1	4.2	4.2
6	4.7	3.6	3.5	3.6	4.4	3.7	3.6	3.7	526.0	4.5	6.3	3.9
7	4.3	3.6	3.5	3.6	19.2	35.8	3.6	3.7	3640.0	5.0	4.5	3.9
8	4.3	10.9	3.5	3.6	189.0	25.7	3.6	3.6	6770.0	4.7	4.7	4.2
9	4.6	8.4	3.5	3.5	499.0	6.2	3.6	3.6	6890.0	4.4	4.5	3.9
10	4.0	5.5	3.5	3.5	353.0	4.9	3.6	3.6	5900.0	4.3	4.0	27.4
11	3.7	3.8	3.5	18.5	37.4	4.2	3.6	3.6	4570.0	4.5	3.9	103.0
12	4.2	3.6	3.5	138.0	20.3	4.0	4.0	3.6	3120.0	5.3	3.9	175.0
13	4.2	3.6	425.0	103.0	127.0	3.8	3.7	3.6	1660.0	5.9	3.9	357.0
14	3.7	3.6	1490.0	7.2	284.0	3.6	3.7	3.6	479.0	5.4	3.9	649.0
15	3.6	3.6	1380.0	5.1	70.6	3.6	3.6	3.6	12.9	5.6	5.1	982.0
16	3.6	3.6	632.0	422.0	21.1	3.6	3.6	3.6	4.7	6.2	4.0	1060.0
17	3.6	3.6	55.0	2420.0	26.5	3.6	3.6	3.6	4.1	6.0	3.9	834.0
18	3.6	3.6	5.9	3910.0	52.8	3.6	3.5	3.6	3.7	6.2	3.9	465.0
19	3.6	3.6	5.9	7800.0	21.5	3.6	3.5	3.6	3.7	6.3	3.9	89.0
20	3.6	3.6	5.0	9730.0	7.2	3.6	3.5	3.6	3.7	6.2	3.9	16.1
21	3.6	7.5	4.5	9820.0	6.0	3.6	3.5	3.6	3.7	5.6	3.8	13.3
22	3.6	5.3	4.1	9300.0	6.0	3.6	3.6	3.6	3.7	8.0	3.8	12.9
23	4.1	3.8	3.9	8310.0	5.2	3.6	5.2	3.6	3.7	8.5	3.8	13.1
24	15.2	3.7	3.8	5700.0	4.3	3.7	3.8	3.6	3.7	7.9	3.8	12.0
25	4.6	3.7	3.6	5510.0	4.3	3.6	3.6	3.6	3.7	10.5	3.8	35.9
26	3.7	3.6	3.5	3770.0	4.1	3.6	3.6	6.5	3.7	9.1	3.7	91.0
27	3.6	3.6	3.5	2270.0	4.2	3.6	3.8	7.7	3.7	7.8	3.7	67.7
28	3.6	3.6	3.6	919.0	4.1	3.6	3.7	4.4	3.8	6.5	3.7	15.0
29	3.6	17.5	5.8	17.0	---	3.6	3.6	3.9	5.2	5.8	3.7	9.2
30	3.6	12.8	4.7	6.4	---	3.6	3.6	5.4	9.0	5.7	3.9	7.5
31	3.6	---	4.0	7.3	---	3.6	---	3.8	---	5.7	3.9	---
MAX	15	17	1490	9820	499	35	5.2	7.7	6890	10	6.3	1060
MIN	3.6	3.6	3.5	3.5	4.1	3.6	3.5	3.6	3.7	4.1	3.7	3.9

CAL YR 1977 MAX 5090 MIN 3.2
WTR YR 1978 MAX 9820 MIN 3.5

08072500 BARKER RESERVOIR NEAR ADDICKS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: June to September 1978.

294610095385400 - BARKER RESERVOIR OUTFLOW

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JUN												
09...	1455	125	6.4	26.5	240	200	5.8	73	4.9	6700	170	820
15...	1145	215	6.5	28.0	160	40	5.7	73	18	32000	160	1000

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)
JUN												
09...	39	8	12	2.1	7.5	.5	2.7	37	0	6.0	12	.2
15...	71	0	22	3.8	13	.7	3.7	89	0	8.1	10	.2

DATE	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN											
09...	8.2	69	320	100	.16	.05	.21	.16	1.0	.22	12
15...	11	116	32	1	.00	.01	.01	.01	1.6	.38	14

294617095390501 - BARKER RES LINE 10, SITE 10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JUN							
09...	1100	1.0	137	6.8	26.0	2.3	29
09...	1102	4.0	137	6.4	25.0	.3	4
09...	1104	7.0	137	6.4	25.0	.3	4

294617095390502 - BARKER RES LINE 10, SITE 20

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
JUN												
09...	1202	1.0	137	6.6	27.0	220	200	3.2	41	5.9	6700	500
09...	1204	5.0	137	6.4	25.5	--	--	2.4	30	--	--	--
09...	1206	10	137	6.4	24.5	--	--	1.7	21	--	--	--
09...	1208	12	117	6.4	24.0	220	250	.9	11	6.6	7300	520
15...	0930	1.0	206	6.7	27.0	160	30	.9	11	20	32000	200
15...	0935	5.0	205	6.7	27.5	140	30	.9	12	20	40000	170

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JUN												
09...	720	42	6	13	2.3	8.5	.6	2.9	44	0	7.6	11
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	920	36	5	11	2.6	7.1	.5	2.7	38	0	7.8	9.4
15...	490	68	0	21	3.7	12	.6	3.7	85	0	9.0	15
15...	1000	66	0	20	3.9	12	.6	3.6	87	0	3.9	16

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN												
09...	.2	8.8	76	340	128	.19	.06	.25	.18	1.0	.24	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	.2	7.9	67	436	108	.15	.05	.20	.18	1.2	.25	11
15...	.2	10	117	59	3	.00	.01	.01	.01	2.4	.40	14
15...	.1	7.4	110	87	56	.02	.01	.03	.01	1.8	.39	13

294617095390503 - BARKER RES LINE 10, SITE 30

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JUN							
09...	1210	1.0	137	6.9	27.5	5.8	74
09...	1212	3.0	137	6.8	27.0	5.1	65
09...	1214	5.0	137	6.4	25.0	1.7	21
09...	1216	6.5	137	6.4	25.0	.6	7

SAN JACINTO RIVER BASIN

08073000 ADDICKS RESERVOIR NEAR ADDICKS, TX

LOCATION.--Lat 29°47'28", long 95°37'24", Harris County, Hydrologic Unit 12040104, at dam on South Mayde Creek, 65 ft (20 m) upstream from reservoir outlet works, 2,700 ft (823 m) upstream from U.S. Highway 90, 1.2 mi (1.9 km) east of Addicks, and 1.4 mi (2.3 km) upstream from mouth.

DRAINAGE AREA.--129 mi^2 (334 km^2). Prior to Aug. 1, 1977, 133 mi^2 (344 km^2). Basin boundary change to relocation of drainage ditches. During extreme floods, basin may receive and (or) lose runoff due to basin interchange.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1948 to current year. In October 1973, the upper gages were converted to flood-hydrograph partial-record stations.

REVISED RECORDS.--WDR TX-77-1: Drainage area.

GAGE.--Water-stage recorders. Datum of gage is National Geodetic Vertical Datum of 1929, 1973 adjustment; unadjusted for land-surface subsidence.

REMARKS.--The reservoir is formed by a rolled earthfill dam 61,166 ft (18,643 m) long. The dam was completed in December 1948. The reservoir is operated for flood protection for the city of Houston. The outlet works consist of five concrete conduits 8 by 6 ft (2.4 by 1.8 m) wide, each controlled by a vertical slide gate. Runoff in excess of maximum design capacity will be discharged around both ends of dam. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Elevation (feet)	Capacity (acre-feet)
Top of dam	123.5	-
Ground elevation at ends of dam	114.0	204,500
Design flood	113.0	188,030
Crest of spillway (invert)	73.0	0

COOPERATION.--The capacity curve, furnished by the Corps of Engineers, was based on a survey made in 1940.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 37,460 acre-ft (46.2 hm^3) May 15, 1968, elevation, 100.02 ft (30.486 m); minimum, reservoir was dry at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1935 reached a stage of 89.9 ft (27.40 m) at bridge on U.S. Highway 90, 2,700 ft (823 m) downstream from gage, from information by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,080 acre-ft (5.03 hm^3) Jan. 20, elevation, 91.88 ft (28.005 m); minimum, reservoir was dry for many days.

Capacity table (elevation, in feet, and total contents, in acre-feet)

73.7	0	85.0	189
76.0	7	86.5	385
78.0	22	88.5	1,020
80.0	46	90.0	2,020
82.0	82	91.0	2,970
84.0	135	92.0	4,260

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.00	.10	.00	2.5	.0	0	0	.00	.35	9.60	.00
2	0	.00	.00	.00	1.1	.0	0	0	31.60	.00	1.20	.00
3	0	.00	.00	.00	.2	.0	0	0	75.70	.00	.25	.00
4	0	.00	.00	.00	.0	.0	0	0	206.00	.00	.00	.00
5	0	.00	.00	.00	.0	.0	0	0	285.00	.00	.00	.00
6	0	.00	.00	.00	.0	.0	0	0	260.00	.00	3.30	.00
7	0	.00	.00	.00	12.5	13.0	0	0	1870.00	.00	.00	.00
8	0	8.80	.00	.25	145.0	1.5	0	0	3530.00	.00	.00	.00
9	0	.63	.00	.00	191.0	.0	0	0	3530.00	.13	.00	.00
10	0	.00	.00	.00	99.2	.0	0	0	2920.00	.00	.00	42.70
11	0	.00	.00	28.30	24.5	.0	0	0	2060.00	.00	.00	106.00
12	0	.00	.00	53.30	34.0	.0	0	0	1190.00	.00	.00	101.00
13	0	.00	68.10	16.90	102.0	.0	0	0	451.00	.08	.00	86.80
14	0	.00	32.70	.33	75.0	.0	0	0	136.00	.00	.00	103.00
15	0	.00	.05	.00	6.0	.0	0	0	37.90	.20	.00	194.00
16	0	.00	.00	119.00	1.0	.0	0	0	.05	.20	.00	335.00
17	0	.00	.00	524.00	12.3	.0	0	0	.00	.00	.00	358.00
18	0	.00	.00	797.00	5.0	.0	0	0	.00	.10	.00	217.00
19	0	.00	.00	3100.00	.8	.0	0	0	.00	2.30	.00	111.00
20	0	.00	.00	4050.00	.0	.0	0	0	.00	1.50	.00	25.80
21	0	.48	.00	3260.00	.0	.0	0	0	.00	1.50	.00	.80
22	0	.00	.00	2000.00	.0	.0	0	0	.00	16.30	.00	.05
23	0	.00	.00	1060.00	.0	.0	0	0	.00	1.80	.00	.00
24	0	.00	.00	683.00	.0	.0	0	0	.00	5.50	.00	.00
25	0	.00	.00	375.00	.0	.0	0	0	.00	7.90	.00	.00
26	0	.00	.00	217.00	.0	.0	0	0	.00	2.40	.00	.00
27	0	.00	.00	120.00	.0	.0	0	0	.00	1.00	.00	.00
28	0	.00	.00	48.00	.0	.0	0	0	1.40	.93	.00	.00
29	0	21.40	.00	2.60	---	.0	0	0	8.80	5.50	.00	.00
30	0	1.30	.00	.00	---	.0	0	0	1.30	17.70	.00	.00
31	0	---	.00	.18	---	.0	---	0	---	25.30	.00	---
MAX	.00	21	68	4050	191	13	.00	.00	3530	25	9.6	358
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL YR 1977 MAX 1800 MIN .00
WTR YR 1978 MAX 4050 MIN .00

SAN JACINTO RIVER BASIN

08073000 ADDICKS RESERVOIR NEAR ADDICKS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical and biochemical analyses: June to September 1978.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
JUN												
09...	1430	94	6.2	25.5	180	120	6.3	79	3.8	3300	190	500
15...	1125	172	6.2	28.0	160	60	5.6	72	15	12000	150	260

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
JUN												
09...	28	4	8.4	1.6	4.8	.4	2.6	29	0	4.7	6.3	.2
15...	54	0	17	2.9	9.6	.6	3.6	70	0	5.1	10	.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN											
09...	6.3	49	264	92	.10	.03	.13	.14	1.1	.19	9.8
15...	6.3	89	55	24	.08	.03	.11	.04	1.6	.42	12

294729095372501 - ADDICKS RES LINE 10, SITE 10

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)
JUN							
09...	1325	1.0	89	6.5	24.5	3.1	38
09...	1327	3.0	89	6.3	24.5	1.4	17
09...	1329	5.0	89	6.2	24.5	.4	5
09...	1331	10	89	6.2	24.0	.2	2
09...	1333	13	92	6.2	24.0	.2	2
15...	1030	1.0	171	6.9	28.0	.7	9

294729095372502 - ADDICKS RES LINE 10, SITE 20

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
JUN												
09...	1352	1.0	89	6.2	25.0	14	110	3.8	48	4.3	5000	210
09...	1354	5.0	89	6.1	24.0	--	--	2.2	27	--	--	--
09...	1356	7.0	89	6.1	23.0	--	--	1.6	19	--	--	--
09...	1358	10	89	6.1	23.0	--	--	.3	4	--	--	--
09...	1400	12	92	6.1	23.5	200	200	.3	4	5.0	1200	1000
15...	1050	4.0	171	6.7	27.5	160	60	.9	12	16	30000	170

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JUN												
09...	500	28	5	8.6	1.5	4.6	.4	2.4	28	0	5.1	6.4
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	520	29	3	8.9	1.6	5.2	.4	2.8	31	0	4.7	6.1
15...	210	51	0	16	2.7	9.6	.6	3.8	70	0	4.6	13

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN												
09...	.2	6.2	49	183	64	.11	.04	.15	.20	.80	.18	8.9
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	.2	6.7	51	636	124	.01	.04	.15	.12	1.2	.28	13
15...	.1	7.1	91	74	23	.09	.02	--	.04	1.7	.44	14

294729095372503 - ADDICKS RES LINE 10, SITE 30

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)
JUN							
09...	1345	1.0	89	6.5	26.0	4.4	55
09...	1347	5.5	89	6.3	24.5	2.9	35
09...	1349	7.0	89	6.1	23.5	.4	5
09...	1351	10	89	6.2	23.5	.5	6

SAN JACINTO RIVER BASIN

08073500 BUFFALO BAYOU NEAR ADDICKS, TX

LOCATION.--Lat 29°45'42", long 95°36'20", Harris County, Hydrologic Unit 12040104, near right bank at bridge on Dairy-Ashford Road over rectified channel, 1.8 mi (2.9 km) downstream from South Mayde Creek, and 2.6 mi (4.2 km) southeast of Addicks.

DRAINAGE AREA.--293 mi² (759 km²), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1945 to current year.

REVISED RECORDS.--WSP 1922: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1.40 ft (0.427 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; records unadjusted to land-surface subsidence. Prior to Feb. 2, 1948, water-stage recorder at bridge on natural channel 1,200 ft (370 m) to right at same datum. Feb. 2 to May 21, 1948, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records poor. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 3.2 and 3.0 mi (5.1 and 4.8 km) upstream, respectively, total capacity 315,900 acre-ft (390 hm³). Extreme low flow is sustained by drainage from irrigated lands.

AVERAGE DISCHARGE.--33 years, 202 ft³/s (5.721 m³/s), 146,300 acre-ft/yr (180 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft³/s (317 m³/s) Aug. 29, 1945, gage height, 81.23 ft (24.759 m), former site; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1896, 85.6 ft (26.09 m) in December 1935, adjusted to former site from floodmark 0.5 mi (0.8 km) downstream, on basis of slope of flood of Aug. 29, 1945, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,790 ft³/s (79.0 m³/s) June 7, gage height, 67.78 ft (20.659 m); minimum daily, 9.4 ft³/s (0.27 m³/s) Nov. 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	45	150	26	230	29	14	11	33	162	263	41
2	57	160	79	29	256	25	13	17	69	86	162	36
3	44	74	47	32	166	23	12	100	440	56	89	92
4	36	44	35	26	109	20	12	64	585	52	61	53
5	40	31	28	20	75	18	17	46	699	52	50	40
6	53	22	22	18	58	17	15	30	1300	49	101	36
7	48	18	20	20	126	262	11	24	1750	54	93	34
8	49	240	22	23	689	381	13	20	663	60	44	40
9	52	200	15	32	893	162	17	18	1340	52	50	46
10	44	120	13	27	1070	68	22	18	1370	78	48	330
11	38	48	19	182	777	43	20	19	1290	45	41	543
12	37	27	17	645	488	33	29	17	1230	52	31	530
13	41	19	800	774	793	28	34	17	1160	77	27	603
14	37	14	700	461	883	26	24	17	992	65	24	590
15	29	12	550	133	755	21	20	14	595	61	30	576
16	26	10	550	698	395	17	14	14	197	79	43	599
17	29	9.8	400	917	338	19	14	17	56	75	33	599
18	23	9.8	110	1350	438	18	15	14	43	68	23	579
19	20	9.4	50	1850	356	16	14	15	38	182	35	545
20	20	9.4	38	1960	182	16	11	15	33	108	37	426
21	18	250	30	1990	95	16	9.6	13	30	98	25	211
22	22	100	26	1880	71	18	26	12	32	114	39	113
23	28	40	23	1700	57	18	53	14	32	262	26	88
24	111	30	20	1630	45	34	34	13	26	140	23	82
25	78	21	20	1560	36	24	24	11	25	221	24	56
26	38	16	16	1460	34	17	16	37	24	253	23	24
27	27	12	15	1270	31	17	19	119	25	160	23	106
28	18	10	15	972	28	15	17	41	44	116	23	161
29	15	150	40	752	---	12	15	21	140	116	24	99
30	12	300	29	194	---	14	13	158	266	158	107	76
31	12	---	26	111	---	14	---	41	---	259	56	---
TOTAL	1188	2051.4	3925	22742	9474	1441	567.6	987	14527	3410	1678	7354
MEAN	38.3	68.4	127	734	338	46.5	18.9	31.8	484	110	54.1	245
MAX	111	300	800	1990	1070	381	53	158	1750	262	263	603
MIN	12	9.4	13	18	28	12	9.6	11	24	45	23	24
AC-FT	2360	4070	7790	45110	18790	2860	1130	1960	28810	6760	3330	14590

CAL YR 1977 TOTAL 41546.4 MEAN 114 MAX 1150 MIN 6.0 AC-FT 82410
WTR YR 1978 TOTAL 69345.0 MEAN 190 MAX 1990 MIN 9.4 AC-FT 137500

SAN JACINTO RIVER BASIN

08073500 BUFFALO BAYOU NEAR ADDICKS, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: August 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
DEC										
05...	1245	27	409	7.5	21.0	240	110	6.9	79	--
JAN										
18...	0915	1260	103	5.9	8.0	280	200	10.5	91	4.5
APR										
25...	1030	25	510	7.2	23.0	60	160	6.0	71	12
JUN										
08...	1325	616	136	7.1	26.5	160	120	6.4	81	4.9
09...	1220	1310	118	6.4	26.5	200	100	6.2	78	4.2
15...	0905	654	204	6.6	28.0	140	40	3.1	40	13
JUL										
12...	0940	47	512	7.2	28.0	60	100	5.4	69	9.3
AUG										
02...	1020	163	369	7.0	28.0	120	60	6.7	86	4.1
23...	1130	25	539	7.1	25.0	60	100	4.9	60	4.9
SEP										
27...	0950	28	449	7.3	24.0	160	50	6.0	73	6.7

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
DEC										
05...	35000	1300	500	--	--	--	--	--	--	--
JAN										
18...	120000	6700	8000	--	--	--	--	--	--	--
APR										
25...	56000	1200	950	130	5	39	7.4	48	1.8	5.0
JUN										
08...	54000	2100	340	--	--	--	--	--	--	--
09...	25000	500	800	--	--	--	--	--	--	--
15...	34000	190	580	68	0	21	3.7	12	.6	3.8
JUL										
12...	12000	2000	900	130	0	41	6.3	49	1.9	3.6
AUG										
02...	9300	600	220	--	--	--	--	--	--	--
23...	100000	7000	950	--	--	--	--	--	--	--
SEP										
27...	13000	500	150	--	--	--	--	--	--	--

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
DEC										
05...	--	--	--	--	--	--	--	162	28	1.3
JAN										
18...	--	--	--	--	--	--	--	384	64	.36
APR										
25...	150	0	34	55	.5	14	277	302	68	1.8
JUN										
08...	--	--	--	--	--	--	--	246	44	.27
09...	--	--	--	--	--	--	--	162	56	.17
15...	45	0	8.2	14	.2	10	115	64	19	.00
JUL										
12...	170	0	18	57	.4	14	274	198	41	.63
AUG										
02...	--	--	--	--	--	--	--	180	31	.35
23...	--	--	--	--	--	--	--	246	36	1.2
SEP										
27...	--	--	--	--	--	--	--	49	24	1.1

08073500 BUFFALO BAYOU NEAR ADDICKS, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
DEC									
05...	.08	1.4	.21	1.5	1.7	1.3	14	--	.20
JAN									
18...	.01	--	.10	1.0	1.1	.31	16	--	.00
APR									
25...	.23	2.0	.39	1.5	1.9	2.2	15	--	.40
JUN									
08...	.05	.32	.10	1.2	1.3	.30	12	--	.00
09...	.05	.22	.16	.71	.87	.01	12	--	.00
15...	.01	.01	.07	2.0	2.1	.41	13	--	--
JUL									
12...	.15	.78	.15	1.5	1.6	1.1	10	0	.00
AUG									
02...	.05	.40	.26	.74	1.0	.46	8.9	3	.10
23...	.17	1.4	.39	1.2	1.6	1.8	11	--	.00
SEP									
27...	.12	1.2	.14	1.4	1.5	1.4	12	--	.20

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JUN							
05...	1250	2	300	1	10	3	40
JUL							
12...	0940	5	500	0	20	4	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUN						
05...	1	0	.2	0	0	10
JUL						
12...	0	0	.0	0	0	0

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JUN									
05...	1250	.0	.00	.00	.0	.00	.00	.00	.09
JUL									
12...	0940	.0	.00	.00	.0	.00	.00	.00	.30
AUG									
02...	1020	.0	.00	.00	.0	.00	.00	.00	.10

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
JUN									
05...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL									
12...	.01	.00	.00	.00	.00	.00	.01	.00	.01
AUG									
02...	.01	.00	.00	.00	.00	.00	.00	.00	.01

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN								
05...	.00	.00	.01	0	.00	.01	.03	.00
JUL								
12...	.00	.00	.00	0	.00	.01	.01	.00
AUG								
02...	.00	.00	.00	0	.00	.02	.03	.00

SAN JACINTO RIVER BASIN

08073600 BUFFALO BAYOU AT WEST B DRIVE, HOUSTON, TX

LOCATION.--Lat 29°45'43", long 95°33'27", Harris County, Hydrologic Unit 12040104, at downstream side of bridge on West Belt Drive in west Houston, 100 ft (30 m) downstream from Rummel Creek, 3.5 mi (5.6 km) downstream from station 08073500, and 3.7 mi (6.0 km) upstream from station 08073700.

DRAINAGE AREA.--307 mi^2 (795 km^2), unadjusted for basin boundary changes.

PERIOD OF RECORD.--September 1971 to current year.

GAGE.--Water-stage recorders and crest-stage gage. Datum of gage is 0.67 ft (0.204 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Records fair. Floodflow regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) 10.1 and 10.3 mi (16.3 and 16.6 km) upstream, respectively. Low flow is sustained by sewage effluent from Houston suburbs. Several observations of water temperature were made during the current year. The Corps of Engineers has a gage-height telemeter at station.

AVERAGE DISCHARGE.--7 years, 315 ft^3/s (8.912 m^3/s), 228,200 acre-ft/yr (281 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,770 ft^3/s (107 m^3/s) Mar. 20, 1972, gage height, 62.15 ft (18.943 m); minimum daily, 25 ft^3/s (0.71 m^3/s) Nov. 21, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,520 ft^3/s (99.7 m^3/s) June 7, gage height, 60.34 ft (18.392 m); minimum daily, 34 ft^3/s (0.96 m^3/s) Nov. 16, May 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	146	177	42	245	54	37	37	54	166	283	74
2	89	168	106	55	256	52	38	39	95	108	200	61
3	74	112	75	50	193	50	37	161	432	77	136	128
4	64	81	58	44	149	47	37	86	582	68	106	87
5	66	63	51	42	115	46	40	71	681	64	91	68
6	86	52	45	39	94	45	40	55	1340	62	215	62
7	79	49	42	42	226	246	36	48	2520	66	153	67
8	82	271	41	50	821	349	38	43	743	70	89	72
9	97	231	40	61	890	180	41	40	1250	75	89	81
10	76	132	38	50	1130	89	49	38	1360	102	84	376
11	66	81	37	270	870	68	48	42	1310	66	75	677
12	63	59	37	631	662	60	66	40	1240	69	63	579
13	67	47	886	802	851	58	64	38	1190	87	59	699
14	65	43	742	515	921	55	52	36	1080	82	57	695
15	56	38	565	166	815	51	46	35	694	78	59	622
16	51	34	554	994	423	45	38	36	214	90	76	644
17	51	38	435	1060	406	44	38	40	77	89	65	645
18	50	35	170	1440	439	44	39	39	65	82	56	629
19	49	35	68	2050	352	40	38	37	62	217	82	591
20	48	38	57	1920	196	40	36	37	57	159	70	464
21	48	297	46	1980	120	40	35	35	54	147	57	226
22	59	143	41	1900	97	42	69	35	56	176	92	129
23	58	74	40	1790	86	43	99	37	57	280	58	108
24	135	52	40	1730	73	74	63	36	53	180	53	103
25	117	45	38	1640	62	48	51	34	51	238	54	84
26	63	41	37	1530	59	40	42	83	50	287	53	51
27	49	39	37	1370	56	40	43	117	52	209	53	95
28	45	38	36	1050	54	38	42	69	65	174	54	174
29	44	198	67	828	---	37	40	83	159	167	54	121
30	44	349	52	234	---	37	39	226	243	200	133	103
31	42	---	46	161	---	38	---	68	---	276	102	---
TOTAL	2094	3029	4704	24536	10661	2140	1381	1821	15886	4211	2871	8515
MEAN	67.5	101	152	791	381	69.0	46.0	58.7	530	136	92.6	284
MAX	135	349	886	2050	1130	349	99	226	2520	287	283	699
MIN	42	34	36	39	54	37	35	34	50	62	53	51
AC-FT	4150	6010	9330	46670	21150	4240	2740	3610	31510	8350	5690	16890

CAL YR 1977 TOTAL 52556 MEAN 144 MAX 1100 MIN 34 AC-FT 104200
WTR YR 1978 TOTAL 81849 MEAN 224 MAX 2520 MIN 34 AC-FT 162300

SAN JACINTO RIVER BASIN

08073700 BUFFALO BAYOU AT PINEY POINT, TX

LOCATION.--Lat 29°44'48", long 95°31'24", Harris County, Hydrologic Unit 12040104, on downstream side of bridge on Piney Point Road, village of Piney Point, 3.7 mi (6.0 km) downstream from Rummel Creek, 7.2 mi (11.6 km) downstream from gage near Addicks (station 08073500), and 12.5 mi (20.1 km) upstream from gage at Houston (station 08074000).

DRAINAGE AREA.--317 mi^2 (821 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1963 to September 1976, October 1976 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 1.35 ft (0.412 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment.

REMARKS.--Station is operated for the purpose of gate regulations at Barker and Addicks Reservoirs (stations 08072500 and 08073000), located 14.0 and 13.8 mi (22.5 and 22.2 km) upstream, respectively. Low flow is partly sustained by sewage effluent from Houston suburbs. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years (water years 1963-76), 265 ft^3/s (7.505 m^3/s), 192,000 acre-ft/yr (237 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,470 ft^3/s (127 m^3/s) June 13, 1973, gage height, 54.98 ft (16.758 m); minimum daily, 6.0 ft^3/s (0.17 m^3/s) Dec. 6, 7, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 52.71 ft (16.066 m) June 7; minimum, 32.25 ft (9.830 m) Oct. 30.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.12	38.48	36.20	---	36.52	33.04	32.96	32.85	33.52	36.04	36.13	34.58
2	33.77	38.28	34.70	---	36.57	33.44	32.98	34.75	37.43	35.25	36.06	33.50
3	33.39	34.71	---	33.30	36.20	33.40	32.99	37.57	38.80	34.22	34.87	34.70
4	33.20	33.97	---	33.20	35.55	33.34	32.95	34.43	39.08	33.80	34.23	34.20
5	33.10	33.44	33.30	33.10	35.05	33.31	32.98	33.92	39.98	33.64	33.88	33.60
6	---	33.15	33.18	33.10	34.62	33.24	33.10	33.54	48.81	33.60	39.12	33.50
7	---	32.95	32.98	---	41.30	37.06	32.42	33.30	52.71	33.68	35.76	33.97
8	---	40.00	33.06	---	41.77	37.44	32.97	33.05	46.30	33.72	34.32	33.97
9	35.40	36.94	32.97	33.70	41.54	36.90	33.11	32.98	43.80	34.70	34.16	35.10
10	---	35.25	33.00	33.40	41.98	34.76	33.62	32.92	43.90	34.72	33.80	41.90
11	---	34.30	32.98	40.60	41.49	33.98	33.51	33.02	43.65	34.04	33.68	41.90
12	33.13	33.63	32.97	40.40	41.56	33.68	34.50	32.98	43.25	33.89	33.43	38.80
13	33.19	33.28	43.94	40.00	41.16	33.64	34.33	32.90	42.95	34.07	33.38	41.50
14	33.20	33.04	42.57	39.90	40.81	33.48	33.42	32.87	42.65	34.07	33.24	41.30
15	33.05	33.13	39.72	37.00	40.73	33.35	33.23	32.83	41.00	33.90	33.37	39.10
16	32.95	33.13	38.73	46.60	39.70	33.27	33.05	32.80	38.20	34.10	33.60	39.20
17	32.84	35.21	38.28	44.10	39.90	33.22	32.94	32.97	---	34.16	33.42	39.20
18	32.80	---	36.00	45.50	38.28	33.29	33.05	32.93	---	34.00	33.17	39.15
19	32.76	---	34.00	46.78	37.83	33.15	32.93	32.90	33.70	37.18	35.08	39.00
20	32.72	---	33.60	45.49	36.67	33.14	32.88	32.89	33.60	35.79	34.64	38.60
21	32.70	40.12	33.40	45.60	35.25	33.13	32.84	32.88	33.50	34.92	33.31	37.00
22	33.78	---	33.20	45.60	34.56	33.15	36.59	32.85	33.45	36.65	35.39	34.80
23	33.78	---	33.10	45.06	34.38	33.18	36.60	32.86	33.48	36.28	34.39	34.50
24	35.19	---	---	44.68	34.10	35.03	33.92	32.83	33.43	35.58	33.12	34.40
25	35.21	---	---	44.39	33.79	33.45	33.42	32.79	33.30	36.04	33.17	34.10
26	33.72	---	---	44.02	33.71	33.14	33.08	35.95	33.27	37.01	33.12	33.20
27	33.15	---	33.00	43.49	33.11	33.15	33.06	35.00	33.63	36.92	33.18	35.40
28	32.92	---	33.00	42.20	33.03	33.03	33.07	34.70	34.52	35.53	33.18	35.50
29	32.72	36.90	34.50	41.10	---	33.00	32.99	41.50	37.98	35.53	33.18	34.43
30	32.69	37.70	33.40	39.36	---	32.93	32.94	41.82	36.38	35.68	36.73	34.25
31	32.63	---	---	36.47	---	33.01	---	34.94	---	36.14	35.38	---
MAX	---	---	---	---	41.98	37.44	36.60	41.82	---	37.18	39.12	41.90
MIN	---	---	---	---	33.03	32.93	32.42	32.79	---	33.60	33.12	33.20

08073700 BUFFALO BAYOU AT PINEY POINT, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
DEC										
06...	0920	45	722	7.6	17.5	120	50	4.7	51	--
JAN										
18...	1030	1140	120	7.0	8.0	280	200	10.5	91	4.8
APR										
25...	1130	51	705	7.4	24.5	40	60	4.0	49	22
JUN										
05...	1400	664	219	6.7	26.5	200	100	5.6	71	10
07...	1145	3430	132	6.9	24.5	200	150	6.0	73	9.6
JUL										
11...	1145	59	635	7.2	29.0	80	100	1.7	22	20
AUG										
08...	1035	71	525	7.4	28.5	70	100	4.2	55	12
SEP										
27...	1110	42	723	7.3	25.5	60	20	3.6	45	19

DATE	COLIFORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
DEC										
06...	120000	650	720	--	--	--	--	--	--	--
JAN										
18...	140000	8000	3800	--	--	--	--	--	--	--
APR										
25...	38000	720	580	140	0	42	7.9	80	3.0	7.4
JUN										
05...	32000	1300	220	61	2	19	3.2	17	1.0	3.5
07...	200000	19000	7200	43	2	14	2.0	7.4	.5	2.6
JUL										
11...	300000	19000	2500	130	0	39	6.7	72	2.8	6.3
AUG										
08...	31000	3100	600	--	--	--	--	--	--	--
SEP										
27...	10000	720	60	--	--	--	--	--	--	--

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
DEC										
06...	--	--	--	--	--	--	--	108	34	.61
JAN										
18...	--	--	--	--	--	--	--	412	64	.36
APR										
25...	230	0	37	73	.6	17	378	103	24	.81
JUN										
05...	72	0	14	21	.2	9.8	123	204	64	.40
07...	50	0	7.1	7.3	.2	6.2	71	428	72	.20
JUL										
11...	220	0	23	62	.6	18	337	191	51	.42
AUG										
08...	--	--	--	--	--	--	--	204	36	.81
SEP										
27...	--	--	--	--	--	--	--	30	28	.72

08073700 BUFFALO BAYOU AT PINEY POINT, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DEC 06...	.35	.96	7.0	2.0	9.0	9.0	12	--	1.0
JAN 18...	.01	--	.30	1.0	--	.39	15	--	.00
APR 25...	.39	1.2	6.0	.60	6.6	4.7	12	--	.70
JUN 05...	.14	.54	.95	1.3	2.2	.43	10	1	.00
07...	.05	.25	.17	.83	1.0	.32	11	--	.00
JUL 11...	.37	.79	2.4	4.7	7.1	4.3	11	2	.10
AUG 08...	.39	1.2	2.4	1.4	3.8	2.5	10	--	.30
SEP 27...	.68	1.4	6.0	1.6	7.6	4.5	9.8	4	.70

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
JUN 05...	1400	3	200	0	0	2	40
JUL 11...	1145	4	400	0	0	4	20
SEP 27...	1110	4	0	0	0	8	50

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
JUN 05...	1	0	.2	0	0	0
JUL 11...	0	0	.0	0	0	10
SEP 27...	0	10	.0	0	0	20

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
JUN 05...	1400	.0	.00	.00	.0	.00	.00	.00	.09
JUL 11...	1145	.0	.00	.00	.1	.00	.00	.00	1.4
SEP 27...	1110	.0	.00	.00	.0	.00	.00	.00	.72

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
JUN 06...	.01	.00	.00	.00	.00	.00	.01	.00	.00
JUL 11...	.02	.00	.00	.00	.00	.00	.04	.12	.00
SEP 27...	.01	.00	.00	.00	.00	.00	.19	.00	.04

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 05...	.00	.00	.00	0	.00	--	--	--
JUL 11...	.00	.00	.00	0	.00	.00	.04	.00
SEP 27...	.00	.00	.00	0	.00	--	--	--

SAN JACINTO RIVER BASIN

08074000 BUFFALO BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°45'36", long 95°24'30", Harris County, Hydrologic Unit 12040104, at bridge on Shepherd Drive in Houston and 0.8 mi (1.3 km) upstream from Waugh Drive.

DRAINAGE AREA.--358 mi² (927 km²), unadjusted for basin boundary changes.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to September 1957, October 1957 to December 1961 (high-water records and discharge measurements), January 1962 to September 1975, October 1975 to current year (high-water records and discharge measurements).

REVISED RECORDS.--WSP 1732: Drainage area (former site).

GAGE.--Water-stage recorder. Datum of gage is 1.36 ft (0.414 m) below National Geodetic Vertical Datum of 1929, 1973 adjustment; records unadjusted for land-surface subsidence. Prior to June 19, 1936, nonrecording gage, and June 19, 1936, to Jan. 16, 1962, water-stage recorder at site 0.8 mi (1.3 km) downstream at 4.08-foot (1.244 m) lower datum. Jan. 17, 1962, to Sept. 30, 1973, auxiliary water-stage recorder 0.8 mi (1.3 km) downstream. Water-stage recorder at Main Street (station 08074600) used as auxiliary gage after Sept. 30, 1973.

REMARKS.--Water-discharge records fair. Although floodflows are regulated by Barker and Addicks Reservoirs (stations 08072500 and 08073000) located 26.3 and 26.8 mi (42.3 and 42.6 km) upstream, respectively, flood peaks from the urbanized areas below these reservoirs are often independent of the regulation. Discharge is computed using a stage-fall-discharge relationship for all storms which produce peak discharges above 1,500 ft³/s (42.5 m³/s). Discharges below 1,000 ft³/s (28.3 m³/s) are computed or estimated following designated storm periods only. Low flow is mostly sustained by sewage effluent from Houston suburbs. Gage heights are affected by tides, backwater from Whiteoak Bayou, and other streams. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--8 years (water years 1936-44) unregulated, 272 ft³/s (7.703 m), 197,100 acre-ft/yr (243 hm³/yr); 26 years (water years 1944-57, 1962-75) regulated, 274 ft³/s (7.760 m³/s), 198,500 acre-ft/yr (245 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft³/s (309 m³/s) Aug. 30, 1945, gage height, 28.82 ft (8.784 m), at site 0.8 mi (1.3 km) downstream at present datum; minimum daily, 1.3 ft³/s (0.037 m³/s) May 24, 1939, Nov. 5, 1950.

EXTREMES OUTSIDE PERIOD OF RECORD.--All flood data at site 0.8 mi (1.3 km) downstream at present datum. Maximum gage height since at least 1835, 49.0 ft (14.94 m) Dec. 9, 1935, discharge 40,000 ft³/s (1,130 m³/s); furnished by engineer for Harris County. Flood of May 31, 1929, reached a gage height of 43.5 ft (13.26 m), discharge 19,000 ft³/s (538 m³/s), at bridge on Capitol Avenue 2.8 mi (4.5 km) downstream, from rating curve extended above 15,300 ft³/s (433 m³/s), stage-discharge relation materially affected by bridge; furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,660 ft³/s (160 m³/s) June 7, gage height, 19.34 ft (5.895 m); minimum discharge not determined (affected by tides).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	---	---			---	---			
2			---	---	---			---	---			
3			---	---	---			---	---			
4			---	---	---			---	---			
5			---	---	---			---	---			
6			---	---	---			---	1610			
7			---	---	281			---	4440			
8			---	---	1320			---	2080			
9			---	---	938			---	1360			
10			---	---	1110			---	1660			
11			---	407	1100			---	1650			
12			---	982	1150			---	1530			
13			1110	746	1020			---	1520			
14			1160	---	882			---	1430			
15			693	---	903			---	1120			
16			---	1410	678			---	702			
17			---	1930	---			---	---			
18			---	1470	---			---	---			
19			---	2490	---			---	---			
20			---	1860	---			---	---			
21			---	1890	---			---	---			
22			---	1880	---			---	---			
23			---	1860	---			---	---			
24			---	1840	---			---	---			
25			---	1670	---			---	---			
26			---	1530	---			---	---			
27			---	1480	---			---	---			
28			---	1180	---			---	---			
29			---	974	---			327	---			
30			---	549	---			1090	---			
31			---	250	---			413	---			
TOTAL			---	---	---			---	---			
MEAN			---	---	---			---	---			
MAX			---	---	---			---	---			
MIN			---	---	---			---	---			
AC-FT			---	---	---			---	---			

SAN JACINTO RIVER BASIN

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
DEC										
14...	1110	1190	175	--	18.0	160	220	6.0	65	26
JAN										
17...	1315	1680	159	7.7	11.5	180	180	8.9	84	9.0
JUN										
05...	1050	1010	217	6.4	26.5	200	200	4.7	59	13
07...	1335	5080	136	7.2	24.5	180	150	5.6	68	5.9
JUL										
11...	0940	221	606	6.9	28.5	90	10	2.1	27	10
AUG										
08...	0925	104	420	6.9	27.0	70	100	4.0	51	9.6
SEP										
06...	0845	72	661	7.3	23.0	80	65	5.7	68	16

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
DEC										
14...	400000	120000	48000	--	--	--	--	--	--	--
JAN										
17...	480000	26000	16000	--	--	--	--	--	--	--
JUN										
05...	100000	11000	620	60	3	19	3.0	17	1.0	3.6
07...	220000	51000	16000	45	0	15	1.9	6.9	.4	2.6
JUL										
11...	180000	40000	6000	130	0	42	7.0	67	2.5	5.9
AUG										
08...	110000	40000	500	--	--	--	--	--	--	--
SEP										
06...	39000	28000	820	130	0	41	7.1	75	2.8	7.4

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
DEC										
14...	--	--	--	--	--	--	--	572	12	.41
JAN										
17...	--	--	--	--	--	--	--	356	60	.28
JUN										
05...	69	0	14	20	.3	7.8	119	328	48	.43
07...	55	0	7.1	6.4	.2	5.3	73	440	48	.21
JUL										
11...	200	0	25	62	.4	17	325	25	18	.78
AUG										
08...	--	--	--	--	--	--	--	308	49	1.1
SEP										
06...	230	0	31	62	.5	22	360	113	14	.87

08074000 BUFFALO BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
DEC									
14...	.01	.42	.45	1.4	1.8	.59	16	--	.00
JAN									
17...	.03	.31	.39	1.2	1.6	.45	16	--	.00
JUN									
05...	.18	.61	.85	1.7	2.5	.85	14	3	.10
07...	.04	.25	.17	1.3	1.5	.39	12	--	.00
JUL									
11...	.72	1.5	2.1	1.5	3.6	3.6	7.8	2	.20
AUG									
08...	.35	1.4	.60	1.0	1.6	1.3	11	--	.10
SEP									
06...	.43	1.3	4.2	1.4	5.6	3.9	13	1	.10

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JUN							
05...	1050	5	300	0	0	2	30
JUL							
11...	0940	8	500	0	0	4	20
SEP							
06...	0845	2	200	0	0	0	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUN						
05...	1	0	.2	0	0	10
JUL						
11...	0	0	.0	1	0	10
SEP						
06...	0	0	.0	1	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JUN									
05...	1050	.0	.00	.00	.0	.01	.00	.17	.15
JUL									
11...	0940	.0	.00	.00	.1	.00	.00	.00	.75
SEP									
06...	0845	.0	.00	.00	.1	.01	.00	.00	.55

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
JUN									
05...	.01	.00	.00	.00	.00	.00	.01	.00	.00
JUL									
11...	.02	.00	.00	.00	.00	.01	.04	.15	.00
SEP									
06...	.08	.00	.00	.00	.00	.01	.03	--	.01

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN								
05...	.00	.00	.01	0	.00	.03	.06	.00
JUL								
11...	.00	.00	.00	0	.00	.07	.09	.00
SEP								
06...	.00	.00	.00	0	.00	.02	.00	.00

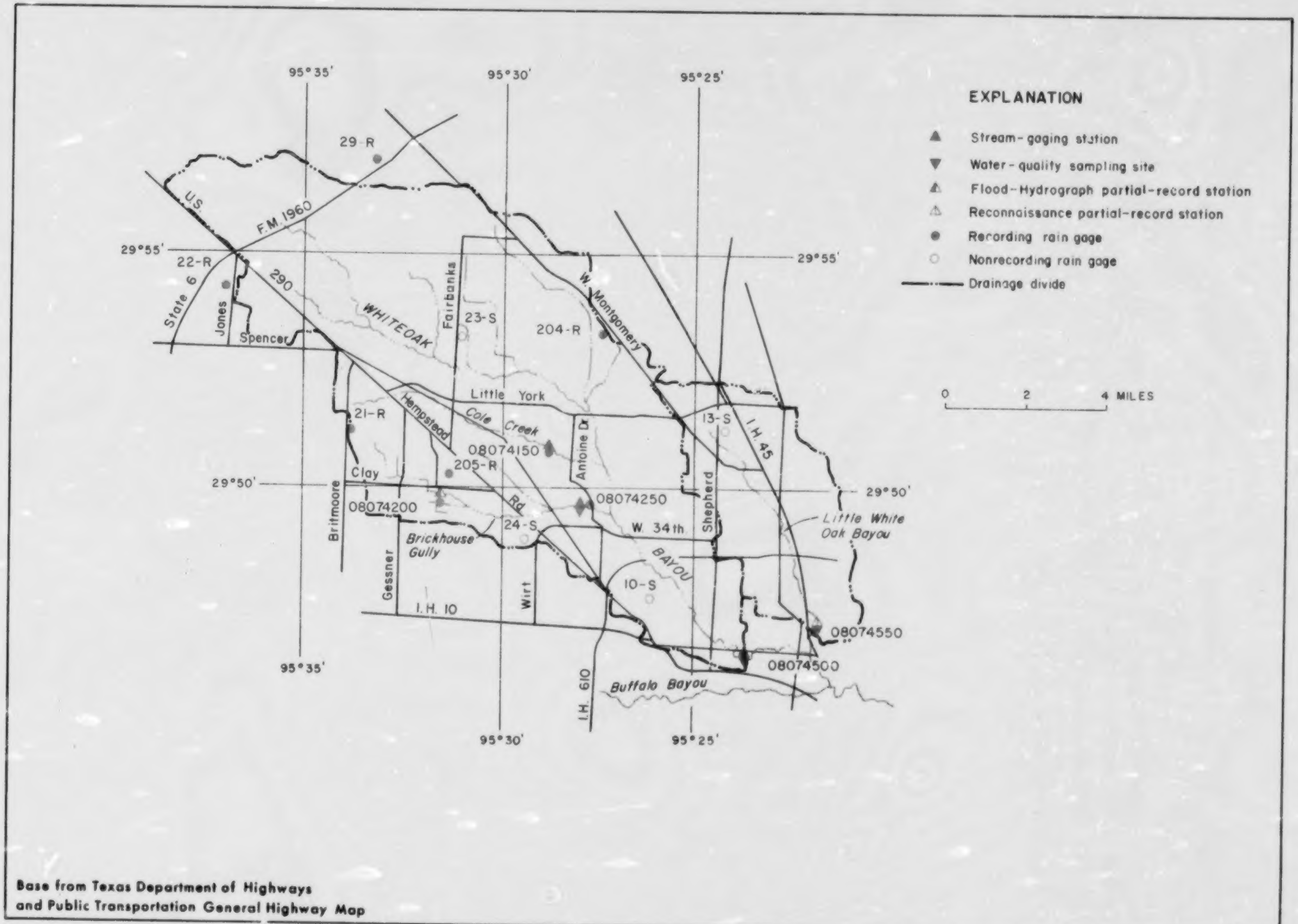
WHITEOAK BAYOU DRAINAGE BASIN

The locations of data-collection sites used for computations for Whiteoak Bayou at Houston are shown on figure 4

Brickhouse Gully and Cole Creek are shown as separate drainage basins within the Whiteoak Bayou section.

Weighted-mean rainfall in the drainage basins, based on six rain gages, for the 1978 water year was 41.1 inches or 7.1 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storm of June 6-7 was selected for analysis at the Whiteoak Bayou at Houston (08074500) gaging stations.



Base from Texas Department of Highways and Public Transportation General Highway Map

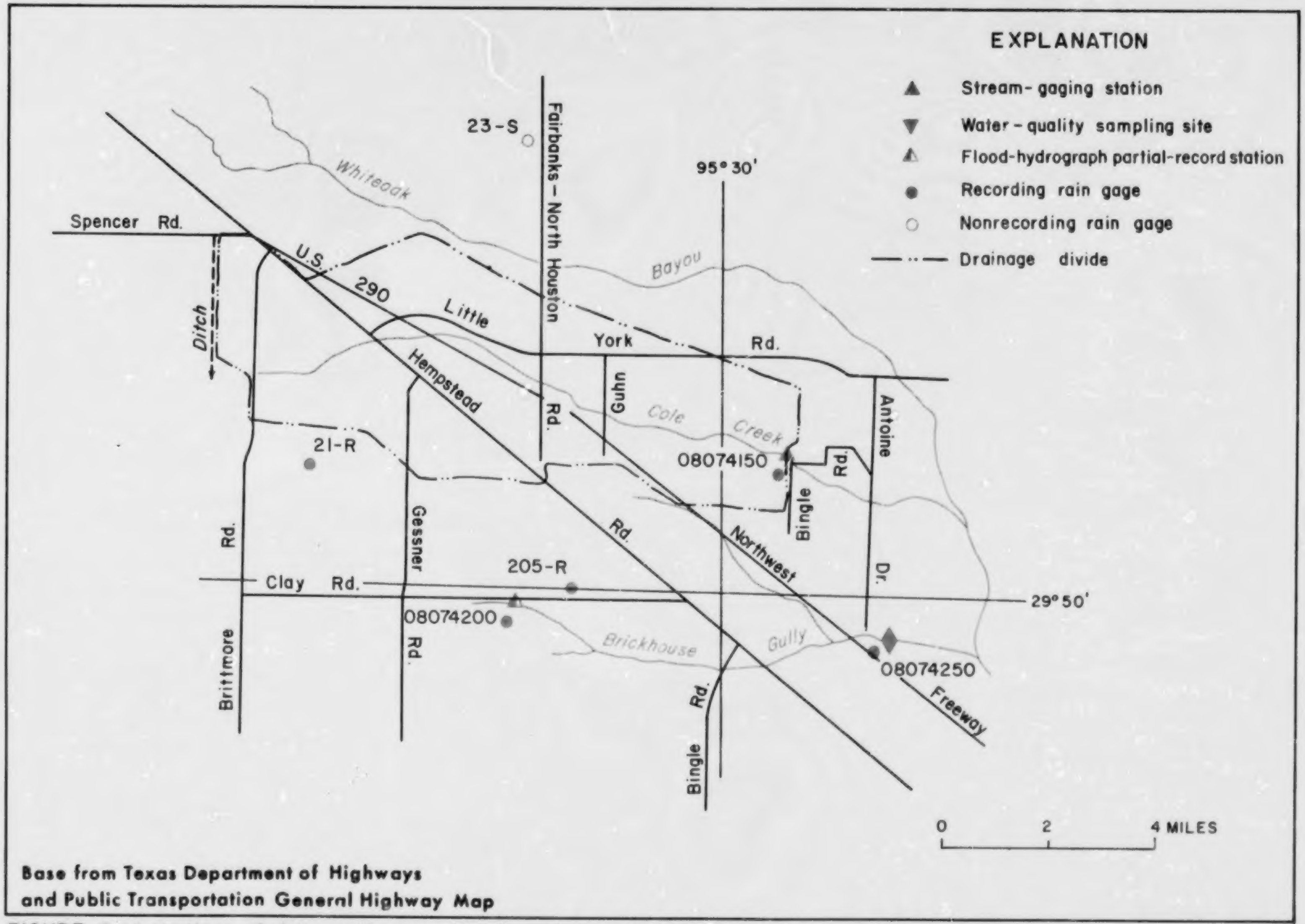
FIGURE 4.-Locations of data-collection sites in and near the Whiteoak Bayou drainage basin

COLE CREEK DRAINAGE BASIN

he locations of data-collection sites in and near the Cole Creek drainage basin are shown on figure 5.

Weighted-mean rainfall in the drainage basins, based on four rain gages, for the 1978 water year was 42.3 inches, or 5.9 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

No storms were analyzed for the 1978 water year.



Base from Texas Department of Highways
and Public Transportation General Highway Map

FIGURE 5.-Locations of data-collection sites in and near the Cole Creek drainage basin

08074150 COLE CREEK AT DEIHL ROAD, HOUSTON, TX

LOCATION.--Lat 29°51'04", long 95°29'16", Harris County, Hydrologic Unit 12040104, on downstream side of bridge at Deihl Road in northwest Houston and 1.8 mi (2.9 km) upstream from mouth.

DRAINAGE AREA.--7.33 mi^2 (18.98 km^2). Prior to Oct. 1, 1976, 8.05 mi^2 (20.85 km^2).

PERIOD OF RECORD.--April 1964 to current year. Gage at temporary location 1.0 mi (1.6 km) downstream at Antoine Drive May 18, 1965, to Sept. 1, 1966, due to bridge construction and channel rectification.

REVISED RECORDS.--WDR TX-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records poor. No diversion above station. Low flow is partly sustained by sewage effluent from Houston suburbs. Recording rain gage at station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--14 years, 7.59 ft^3/s (0.215 m^3/s), 5,500 acre-ft/yr (6.78 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,020 ft^3/s (57.2 m^3/s) Mar. 20, 1972, elevation, 78.60 ft (23.957 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft^3/s (11.3 m^3/s), revised, and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Elevation (ft)	Elevation (m)
Dec. 13	0830	738	20.9	75.89	23.131	June 7	0330	*850	24.1	76.85	23.424
Jan. 16	1500	423	12.0	74.46	22.695	July 28	1630	693	19.6	76.26	23.244

Minimum daily discharge, 0.01 ft^3/s (0.0003 m^3/s) Nov. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	8.0	1.1	.16	8.4	.87	1.0	.36	48	.40	1.1	.74
2	.36	10	.32	1.5	4.5	1.0	.76	4.3	60	.44	.56	.54
3	.18	.68	.19	.68	3.2	1.2	.96	72	57	.45	.37	.59
4	.13	.11	.13	.33	2.5	.76	.77	.99	7.7	.30	.33	1.8
5	.13	.02	.10	.21	1.9	.68	.69	.56	.83	31	.35	.53
6	.12	.01	.04	.15	1.5	.78	.65	.60	169	1.9	9.4	.25
7	.11	.01	.03	.23	25	15	.64	.27	354	.30	5.0	2.1
8	.28	16	.04	.20	71	3.9	.84	.21	98	.22	.56	2.3
9	.09	4.5	.06	.13	18	1.7	.78	.15	13	.21	.28	1.2
10	.11	.65	.06	.11	9.9	1.5	.61	.10	3.5	.20	.21	13
11	.41	.17	.05	34	5.9	1.1	.83	.08	1.8	.29	.18	22
12	.24	.09	.02	23	75	.73	1.1	.11	1.1	.23	.75	4.0
13	.20	.04	258	2.3	50	1.0	.76	.10	1.5	.17	1.3	18
14	.17	.03	20	.93	13	1.0	.52	.06	1.1	.13	2.2	24
15	.15	1.2	3.2	.36	7.5	.86	.45	.06	.72	.13	1.2	3.0
16	.13	.28	1.1	162	6.8	.65	.36	.16	.54	.14	.23	1.1
17	.12	.11	.54	56	26	.62	.36	.15	.47	.16	.20	.50
18	.11	.05	.38	69	14	.58	.35	.33	.74	.21	.15	.30
19	.10	.04	.33	171	6.3	.62	.32	.31	.57	.34	.35	.24
20	.12	.04	.29	23	4.0	.64	.30	4.3	.51	.32	.27	.33
21	.11	9.9	.24	10	2.7	.65	.30	.42	.46	.43	2.1	.30
22	.41	4.0	.33	11	2.8	.73	4.6	.21	.46	28	.64	.21
23	.18	.65	.33	11	2.3	.73	3.9	.21	.41	16	.30	.16
24	.26	.24	.31	32	1.5	17	.40	.20	.47	.86	.28	.14
25	.40	.12	.34	20	1.5	1.9	.27	.17	.42	.86	.27	.10
26	.30	.05	.52	8.4	1.3	1.3	.27	.18	.38	18	.24	.09
27	.20	.05	.41	4.7	1.2	1.7	.26	.18	.35	4.0	.25	.09
28	.15	.04	.46	2.8	1.1	1.9	.24	.18	.33	103	.30	.09
29	.12	3.9	1.3	2.0	---	1.6	.27	.42	5.7	19	.30	.09
30	.10	4.1	.44	2.5	---	1.4	.29	56	1.2	26	.82	.08
31	.10	---	.22	3.9	---	1.3	---	35	---	8.5	1.2	---
TOTAL	5.76	65.08	290.88	653.59	368.8	65.40	23.85	178.37	830.26	262.19	31.69	97.87
MEAN	.19	2.17	9.38	21.1	13.2	2.11	.80	5.75	27.7	8.46	1.02	3.26
MAX	.41	16	258	171	75	17	4.6	72	354	103	9.4	24
MIN	.09	.01	.02	.11	1.1	.58	.24	.06	.33	.13	.15	.08
AC-FT	11	129	577	1300	732	130	47	354	1650	520	63	194
(††)	.63	4.56	3.86	7.30	3.08	1.13	1.00	2.78	7.61	4.16	1.82	4.40

CAL YR 1977 TOTAL 1699.32 MEAN 4.66 MAX 258 MIN .00 AC-FT 3370 †† 30.67
WTR YR 1978 TOTAL 2873.74 MEAN 7.87 MAX 354 MIN .01 AC-FT 5700 †† 42.33

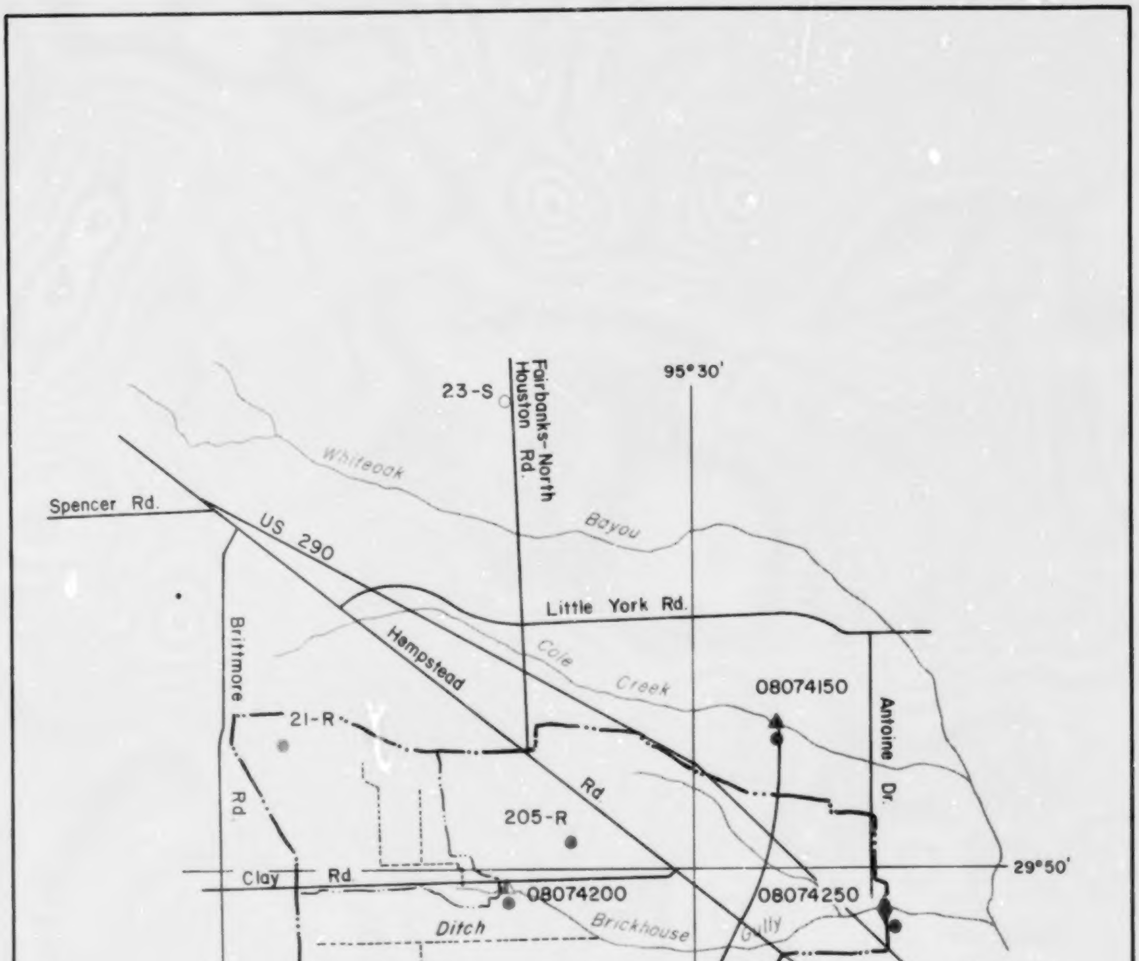
†† Weighted-mean rainfall, in inches, based on four rain gages.

BRICKHOUSE GULLY DRAINAGE BASIN

The location of data-collection sites in and near the Brickhouse Gully drainage basin are shown on figure 6.

Weighted-mean rainfall in the drainage basin based on five rain gages for the 1978 water year was 43.6 inches or 4.6 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storms of June 6-7 and July 28 were selected for analysis at station 08074200, Brickhouse Gully at Clarblak Street, and station 08074250, Brickhouse Gully at Costa Rica Street.



Base from Texas Department of Highways and Public Transportation General Highway Map

FIGURE 6.-Locations of data-collection sites in and near the Brickhouse Gully drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 3.--Storm rainfall-runoff data, 1978 water year, Brickhouse Gully

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brickhouse Gully at Clarblak Street (Drainage area--2.56 mi^2)								
June 6-7, 1978	12.0	6.72	0.84	1.56	2.76	1.98	0.29	278
July 28, 1978	1.2	0.82	0.96	1.56	1.80	0.49	0.60	223
Brickhouse Gully at Costa Rica St., Houston, TX (Drainage area--11.4 mi^2)								
June 6-7, 1978	12.5	6.30	0.84	1.56	2.76	3.45	0.55	3,180
July 28, 1978	1.0	1.94	1.04	1.80	2.52	0.94	0.48	2,300

08074200 Brickhouse Gully at Clarblak Street, Houston, Tex.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°49'53", long 95°31'42", Harris County, Hydrologic Unit 12040104 at bridge on Clarblak Street, in northwest Houston, and 4.0 miles upstream from station at Costa Rica Street.

DRAINAGE AREA.--2.56 mi^2. Drainage area, effective for period, April 1964 to current year. The boundary of the basin is poorly defined due to flat ground slopes.

PERIOD OF RECORD--April 1964 to July 6, 1976, Jan. 26, 1977 to current year.

GAGE.--Digital flood-hydrograph and rainfall rcorders and crest-stage gage. Prior to April 7, 1978, a flood-hydrograph rainfall recorder (type SR) and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment, unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 278 ft^3/s, June 6-7, 1978 (elevation 87.67 ft) after concrete lining of channel. Maximum discharge, 399 ft^3/s March 20, 1972 (elevation 94.28 ft) prior to concrete lining (July 1976).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft^3/s (revised) and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Nov. 29	about 0845	202	86.49
June 6	1545	*278	*87.67
June 7	0230	*278	*87.67
July 22	1845	212	86.64
July 28	1630	223	86.81

Minimum discharge not determined.

STA. NO. 08074200 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRICKHOUSE GULLY AT CLARBLAK STREET, HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
	4200									
JUNE 6										
0000	0.0							0.0	1.5	0.0028
0615	0.0							0.0	1.5	0.0058
0630	0.36							0.36	1.5	0.0061
0700	0.36							0.36	5.0	0.0084
0800	0.36							0.36	20.0	0.0205
0900	0.36							0.36	15.0	0.0375
1145	0.36							0.36	5.0	0.0421
1200	0.44							0.44	5.0	0.0428
1215	0.72							0.72	10.0	0.0504
1430	0.72							0.72	5.0	0.0542
1445	1.44							1.44	20.0	0.0572
1500	2.28							2.28	139.0	0.0782
1515	2.88							2.88	231.0	0.1132
1530	3.48							3.48	275.0	0.1548
1545	3.72							3.72	278.0	0.1969
1600	3.84							3.84	261.0	0.2364
1615	4.20							4.20	255.0	0.2750
1630	4.20							4.20	248.0	0.3125
1645	4.20							4.20	148.0	0.3409
1700	4.20							4.20	156.0	0.3645
1715	4.20							4.20	120.0	0.3827
1730	4.20							4.20	95.0	0.3971
1745	4.20							4.20	83.0	0.4096
1800	4.20							4.20	75.0	0.4210
1815	4.20							4.20	69.0	0.4314
1830	4.32							4.32	65.0	0.4413
1845	4.56							4.56	82.0	0.4537
1900	4.80							4.80	125.0	0.4726
1915	4.80							4.80	136.0	0.4932
1930	4.80							4.80	119.0	0.5112
1945	4.80							4.80	99.0	0.5262
2000	4.80							4.80	85.0	0.5390
2015	4.80							4.80	76.0	0.5505
2030	4.80							4.80	70.0	0.5611
2045	4.80							4.80	65.0	0.5710
2100	4.80							4.80	59.0	0.5799
2115	4.80							4.80	57.0	0.5885
2130	4.80							4.80	54.0	0.5967
2145	4.80							4.80	54.0	0.6049

STA. NO. 08074200 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRICKHOUSE GULLY AT CLARBLAK STREET, HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
	4200									
JUNE 6										
2200	4.80							4.80	48.0	0.6121
2215	4.80							4.80	45.0	0.6189
2230	4.80							4.80	43.0	0.6287
2300	4.80							4.80	42.0	0.6478
2400	4.80							4.80	40.0	0.6659
JUNE 7										
0000	4.80							4.80	40.0	0.6659
0100	4.80							4.80	40.0	0.6871
0115	5.04							5.04	40.0	0.6932
0130	5.16							5.16	43.0	0.6997
0145	5.40							5.40	74.0	0.7109
0200	5.88							5.88	184.0	0.7387
0215	6.24							6.24	263.0	0.7785
0230	6.48							6.48	278.0	0.8206
0245	6.60							6.60	275.0	0.8622
0300	6.60							6.60	268.0	0.9027
0315	6.72							6.72	260.0	0.9421
0330	6.72							6.72	248.0	0.9796
0345	6.72							6.72	233.0	1.0149
0400	6.72							6.72	213.0	1.0632
0430	6.72							6.72	170.0	1.1147
0500	6.72							6.72	136.0	1.1558
0530	6.72							6.72	112.0	1.1897
0600	6.72							6.72	98.0	1.2194
0630	6.72							6.72	90.0	1.2466
0700	6.72							6.72	85.0	1.2852
0800	6.72							6.72	77.0	1.3318
0900	6.72							6.72	70.0	1.3742
1000	6.72							6.72	64.0	1.4129
1100	6.72							6.72	59.0	1.4486
1200	6.72							6.72	56.0	1.4825
1300	6.72							6.72	54.0	1.5152
1400	6.72							6.72	48.0	1.5443
1500	6.72							6.72	44.0	1.5709
1600	6.72							6.72	42.0	1.5963
1700	6.72							6.72	39.0	1.6199
1800	6.72							6.72	36.0	1.6962
2400	6.72							6.72	26.0	1.7670
JUNE 8										
0000	6.72							6.72	26.0	1.7670
0600	6.72							6.72	18.0	1.8560

STA. NO. 08074200 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRICKHOUSE GULLY AT CLARBLAK STREET, HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
	4200									
JUNE 8										
1200	6.72							6.72	13.0	1.9032
1800	6.72							6.72	8.1	1.9326
2400	6.72							6.72	4.8	1.9457
JUNE 9										
0000	6.72							6.72	4.8	1.9457
0600	6.72							6.72	3.2	1.9617
1200	6.72							6.72	2.5	1.9708
1800	6.72							6.72	2.0	1.9780
2400	6.72							6.72	1.6	1.9809

STA. NO. 08074200 — STORM RAINFALL AND RUNOFF RECORD — 1978 WATER YEAR

BRICKHOUSE GULLY AT CLARBLAK STREET, HOUSTON, TEX. — STORM OF JULY 28, 1978

DATE & TIME	GAGE NUMBER 4200	218						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
JULY 28										
0000	0.0	0.0						0.0	1.5	0.0054
1200	0.0	0.0						0.0	1.5	0.0123
1500	0.0	0.0						0.0	1.5	0.0137
1515	0.60	0.0						0.18	15.0	0.0160
1530	1.56	0.12						0.55	57.0	0.0246
1545	1.56	0.30						0.68	112.0	0.0416
1600	1.80	0.33						0.77	147.0	0.0638
1615	1.80	0.40						0.82	214.0	0.0962
1630	1.80	0.40						0.82	223.0	0.1300
1645	1.80	0.40						0.82	211.0	0.1619
1700	1.80	0.40						0.82	184.0	0.1897
1715	1.80	0.40						0.82	150.0	0.2124
1730	1.80	0.40						0.82	109.0	0.2372
1800	1.80	0.40						0.82	79.0	0.2611
1830	1.80	0.40						0.82	58.0	0.2786
1900	1.80	0.40						0.82	53.0	0.3027
2000	1.80	0.40						0.82	45.0	0.3435
2200	1.80	0.40						0.82	32.0	0.3823
2400	1.80	0.40						0.82	23.0	0.4171
JULY 29										
0000	1.80	0.40						0.82	23.0	0.4171
0600	1.80	0.40						0.82	8.5	0.4688
1200	1.80	0.40						0.82	3.5	0.4816
1800	1.80	0.40						0.82	2.2	0.4895
2400	1.80	0.40						0.82	1.5	0.4923

SAN JACINTO RIVER BASIN

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX

LOCATION.--Lat 29°49'40", long 95°28'09", Harris County, Hydrologic Unit 12040104, at downstream side of bridge at Costa Rica Street in northwest Houston and 1.0 mi (1.6 km) upstream from Whiteoak Bayou.

DRAINAGE AREA.--11.4 mi^2 (29.5 km^2). Prior to Oct. 1, 1973, 11.6 mi^2 (30.0 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year.

REVISED RECORDS.--WDR TX-74-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Low-water concrete control since Dec. 9, 1970. Datum of gage is National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Water-discharge records good. Low flow is partially sustained by sewage effluent. No known diversion above station. Recording rain gage at station.

AVERAGE DISCHARGE.--14 years, 13.2 ft^3/s (0.374 m^3/s), 9,560 acre-ft/yr (11.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,800 ft^3/s (164 m^3/s) Mar. 20, 1972, elevation, 69.20 ft (21.092 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 850 ft^3/s (24.1 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Elevation (ft)	Elevation (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Elevation (ft)	Elevation (m)
Dec. 13	0830	1,570	44.5	61.41	18.718	June 7	0330	*3,180	90.1	65.10	19.842
aJan. 16	1330	1,910	54.1	62.30	18.989	July 26	1815	1,190	33.7	60.28	18.373
aMay 30	1630	848	24.0	59.07	18.005	July 28	1615	2,300	65.1	63.23	19.273
aJune 6	1600	2,730	77.3	64.19	19.565	July 30	1500	1,090	30.9	59.97	18.279

a Water-quality samples were obtained during this flood event.

Minimum daily discharge, 0.92 ft^3/s (0.026 m^3/s) July 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	50	4.3	1.8	15	3.8	3.4	1.8	53	2.5	5.9	1.3
2	3.4	11	2.1	11	7.5	5.3	2.1	12	59	2.4	2.9	2.1
3	3.6	5.0	1.5	2.8	10	5.2	3.2	35	37	1.4	3.2	1.3
4	3.7	3.0	2.2	3.6	3.5	4.0	3.4	3.2	7.0	1.6	4.4	2.6
5	3.4	3.0	2.5	4.3	2.9	5.0	3.9	2.1	4.3	6.3	3.9	2.6
6	2.5	2.5	3.9	4.8	3.6	5.8	2.9	3.2	482	2.5	30	1.6
7	2.5	6.0	2.1	5.7	92	30	3.2	3.4	501	1.1	4.4	6.8
8	3.0	88	2.0	5.0	69	4.4	3.7	4.8	38	.98	3.4	2.1
9	2.5	6.9	2.5	4.6	16	3.5	3.7	3.9	13	.92	3.9	3.2
10	3.0	3.2	2.5	6.1	7.7	3.0	7.2	3.4	5.5	1.4	1.8	78
11	4.0	2.7	.95	205	5.4	2.9	7.7	3.4	3.9	1.6	1.3	31
12	3.5	1.6	1.5	26	117	2.8	8.9	3.7	3.4	2.2	3.7	11
13	3.0	2.3	320	7.9	42	3.9	4.2	2.9	4.5	1.6	2.3	64
14	3.0	2.9	28	5.1	18	3.0	3.9	2.3	5.3	1.2	2.6	15
15	3.0	14	9.2	4.2	13	3.1	4.2	3.2	3.7	1.3	2.6	4.8
16	3.0	3.6	4.1	339	9.3	5.5	4.2	2.3	2.5	1.3	2.3	2.1
17	2.5	7.7	2.8	43	64	2.4	4.2	3.7	2.4	1.6	2.1	1.8
18	2.3	2.2	1.9	162	20	2.8	3.7	4.4	4.8	1.6	1.6	1.6
19	2.1	2.1	2.1	170	8.5	4.0	3.9	3.7	5.2	7.2	1.8	1.6
20	2.0	1.9	2.3	26	5.9	4.0	3.9	22	2.6	2.6	2.3	3.7
21	3.0	51	2.2	21	5.7	4.2	3.7	2.6	5.7	2.9	1.8	3.2
22	10	3.7	3.7	16	7.3	4.3	8.9	1.6	2.5	47	2.6	2.9
23	5.0	2.7	2.5	24	6.7	4.7	6.3	2.9	1.8	19	1.6	1.8
24	7.0	4.0	1.9	38	6.3	17	1.8	4.4	1.6	9.5	1.6	1.1
25	5.0	3.2	2.0	24	7.5	4.8	1.8	5.2	1.5	5.9	1.1	1.4
26	3.5	3.4	3.2	9.5	6.9	3.9	3.4	1.8	1.5	73	1.1	3.2
27	3.0	3.2	2.0	6.2	6.8	5.5	3.7	2.1	2.0	9.5	1.6	1.6
28	3.0	3.8	3.3	4.4	6.2	5.2	3.9	1.3	1.3	249	2.6	2.1
29	2.5	18	13	4.2	---	3.9	3.2	17	37	18	1.6	2.9
30	2.5	15	3.4	6.9	---	3.4	2.9	99	5.1	140	11	3.2
31	2.5	---	2.5	12	---	4.8	---	11	---	22	1.8	---
TOTAL	106.2	327.6	438.15	1104.1	583.7	166.1	125.1	273.3	1298.1	639.10	114.8	261.6
MEAN	3.43	10.9	14.1	35.6	20.8	5.36	4.17	8.82	43.3	20.6	3.70	8.72
MAX	10	88	320	339	117	30	8.9	99	501	249	30	78
MIN	2.0	1.6	.95	1.8	2.9	2.4	1.8	1.3	1.3	.92	1.1	1.1
AC-FT	211	650	869	2190	1160	329	248	542	2570	1270	228	519
(††)	.45	4.78	3.60	7.22	3.32	.96	.90	2.78	8.71	5.61	1.56	3.66

CAL YR 1977 TOTAL 3560.56 MEAN 9.75 MAX 320 MIN .65 AC-FT 7060 †† 33.62
WTR YR 1978 TOTAL 5437.85 MEAN 14.9 MAX 501 MIN .92 AC-FT 10790 †† 43.55

†† Weighted-mean rainfall, in inches, based on five rain gages.

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	COLOR (PLATINUM-COBALT UNITS)	TURBIDITY (JTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L)
DEC										
06...	1030	3.9	1010	8.2	10.0	20	10	12.1	111	--
JAN										
16...	1335	1790	110	8.2	15.5	180	250	9.8	101	5.7
16...	1500	1170	106	8.0	15.5	180	220	10.0	103	5.6
16...	1615	687	115	7.7	15.5	200	200	9.7	100	5.4
17...	1000	39	187	7.8	6.5	260	150	12.0	1	4.8
MAY										
02...	1210	3.9	873	8.1	24.5	10	20	16.6	202	5.0
30...	1800	396	140	6.7	26.5	120	300	7.2	91	19
30...	1910	165	186	6.6	26.5	90	180	6.8	86	48
31...	1335	7.2	716	6.8	32.0	60	40	3.6	49	28
JUN										
06...	1545	2710	138	7.4	25.5	200	350	6.6	82	12
JUL										
10...	1330	1.8	862	8.2	33.0	20	10	15.4	214	5.1
AUG										
02...	1120	2.9	621	8.6	31.0	50	6	17.5	236	5.8

DATE	COLIFOHM, TOTAL, IMMED. (COLS. PER 100 ML)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)
DEC										
06...	120000	6700	900	--	--	--	--	--	--	--
JAN										
16...	300000	51000	29000	39	0	13	1.7	6.3	.4	1.9
16...	220000	40000	28000	--	--	--	--	--	--	--
16...	170000	30000	24000	--	--	--	--	--	--	--
17...	240000	29000	9100	--	--	--	--	--	--	--
MAY										
02...	140000	25000	2000	240	0	71	16	97	2.7	1.5
30...	1300000	560000	9900	42	0	14	1.7	8.8	.6	2.7
30...	1600000	290000	14000	--	--	--	--	--	--	--
31...	1900000	780000	16000	150	0	47	7.9	79	2.8	6.4
JUN										
06...	420000	140000	6800	--	--	--	--	--	--	--
JUL										
10...	11000	3200	200	150	15	32	16	100	3.6	2.1
AUG										
02...	1100000	220000	620	170	0	49	11	73	2.5	2.9

DATE	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, VOLATILE, SUSPENDED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)
DEC										
06...	--	--	--	--	--	--	--	20	7	.16
JAN										
16...	56	0	7.6	5.6	.1	4.1	68	796	96	.25
16...	--	--	--	--	--	--	--	640	68	.21
16...	--	--	--	--	--	--	--	484	64	.24
17...	--	--	--	--	--	--	--	324	60	.17
MAY										
02...	360	0	15	91	.5	20	489	14	13	.01
30...	57	0	7.7	7.6	.1	2.5	74	1180	124	.76
30...	--	--	--	--	--	--	--	516	72	.82
31...	260	4	21	89	.4	12	396	42	14	.05
JUN										
06...	--	--	--	--	--	--	--	1610	176	.15
JUL										
10...	160	0	13	150	.4	11	404	26	23	.02
AUG										
02...	210	14	--	69	.4	16	--	14	14	.02

SAN JACINTO RIVER BASIN

08074250 BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DEC									
06...	.02	.18	.10	.64	.74	.20	7.7	--	.30
JAN									
16...	.01	.26	.03	1.2	1.2	.37	18	--	.00
16...	.01	.22	.08	1.4	1.5	.39	16	--	.00
16...	.01	.25	.06	1.1	1.2	.35	15	--	.00
17...	.01	.18	.09	.84	.93	.23	14	--	.00
MAY									
02...	.01	.02	.04	.61	.65	.14	6.4	--	.20
30...	.09	.05	.24	2.0	2.2	.58	15	5	.80
30...	.05	.07	.04	2.2	2.2	.68	15	6	.20
31...	.04	.09	9.0	3.0	12	2.5	18	12	1.0
JUN									
06...	.02	.17	.11	2.0	2.1	.46	20	--	.00
JUL									
10...	.00	.02	.01	3.4	3.4	.13	6.3	4	.00
AUG									
02...	.01	.03	.55	.65	1.2	.61	7.8	8	.90

DATE	TIME	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
MAY							
30...	1750	54	300	1	0	4	80
31...	1335	30	300	0	10	4	70
JUL							
10...	1330	4	600	0	0	4	20
AUG							
02...	1120	17	--	0	0	4	30

DATE	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, DISSOLVED (UG/L AS ZN)
MAY						
30...	4	10	.0	0	0	10
31...	2	30	.0	0	0	20
JUL						
10...	0	0	.0	1	0	10
AUG						
02...	0	0	.0	0	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLYCHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
MAY									
30...	1750	.4	.00	.00	.7	.12	.00	.00	1.1
31...	1335	.4	.00	.00	.0	.00	.00	.00	.39
JUL									
10...	1330	.0	.00	.00	.0	.00	.00	.00	.04
AUG									
02...	1120	.0	.00	.00	.0	.00	.00	.00	.29

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
MAY									
30...	.17	.00	.00	.00	.00	.00	.00	.00	.00
31...	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL									
10...	.00	.00	.00	.00	.00	.00	.00	.00	.00
AUG									
02...	.00	.00	.00	.00	.00	.00	.01	.00	.00

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY								
30...	.00	.00	.00	0	.00	.00	.00	.00
31...	.00	.00	.00	0	.00	.00	.00	.00
JUL								
10...	.00	.00	.00	0	.00	.05	.00	.00

STA. NO. 08074250 | STORM RAINFALL AND RUNOFF RECORD | 1978 WATER YEAR

BRICKHOUSE GULLY AT COSTA RICA ST. HOUSTON, TEX. | STORM OF JUNE 6-7. 1978

DATE & TIME	GAGE NUMBER 4250	4200	4150	2058				ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
JUNE 6										
0000	0.0	0.0	0.0	0.0				0.0	4.4	0.0018
0600	0.0	0.0	0.0	0.0				0.0	4.4	0.0037
0615	0.0	0.0	0.0	0.10				0.03	4.4	0.0038
0630	0.0	0.36	0.0	0.20				0.24	4.4	0.0042
0730	0.0	0.36	0.0	0.20				0.24	4.4	0.0046
0800	0.0	0.36	0.0	0.20				0.24	4.4	0.0049
0830	0.0	0.36	0.0	0.20				0.24	29.0	0.0079
0930	0.0	0.36	0.0	0.20				0.24	25.0	0.0130
1130	0.0	0.36	0.0	0.20				0.24	18.0	0.0157
1145	0.0	0.36	0.0	0.30				0.27	18.0	0.0164
1200	0.0	0.48	0.0	0.58				0.41	18.0	0.0170
1215	0.03	0.72	0.0	0.58				0.54	18.0	0.0176
1230	0.03	0.72	0.0	0.58				0.54	18.0	0.0182
1245	0.03	0.72	0.09	0.58				0.54	18.0	0.0188
1300	0.03	0.72	0.09	0.60				0.55	31.0	0.0199
1315	0.10	0.72	0.09	0.60				0.56	71.0	0.0247
1400	0.10	0.72	0.11	0.60				0.56	86.0	0.0305
1415	0.40	0.72	0.11	0.60				0.61	87.0	0.0335
1430	0.70	0.72	0.11	1.18				0.82	430.0	0.0481
1445	1.16	1.44	0.11	1.87				1.46	684.0	0.0713
1500	1.20	2.28	0.11	2.34				2.03	723.0	0.0959
1515	1.20	2.88	0.65	2.94				2.53	995.0	0.1297
1530	1.70	3.48	1.08	3.31				3.04	2060.0	0.1997
1545	2.04	3.72	1.33	3.44				3.26	2690.0	0.2911
1600	2.10	3.84	1.70	3.71				3.43	2730.0	0.3839
1615	2.16	4.20	1.86	3.82				3.66	2730.0	0.4767
1630	2.16	4.20	1.90	3.84				3.67	2530.0	0.6056
1700	2.16	4.20	2.08	3.84				3.68	2080.0	0.8177
1800	2.18	4.20	2.08	3.84				3.68	1070.0	0.9086
1815	2.18	4.20	2.08	3.84				3.68	925.0	0.9400
1830	2.18	4.32	2.08	3.85				3.75	805.0	0.9674
1845	2.18	4.56	2.08	4.28				3.99	707.0	0.9914
1900	2.18	4.80	2.09	4.53				4.19	721.0	1.0159
1915	2.80	4.80	2.09	4.58				4.30	1350.0	1.0618
1930	3.19	4.80	2.10	4.58				4.36	1920.0	1.1270
1945	3.20	4.80	2.70	4.58				4.39	1890.0	1.1913
2000	3.22	4.80	3.04	4.58				4.41	1680.0	1.3340
2100	3.26	4.80	3.12	4.58				4.42	900.0	1.4563
2200	3.26	4.80	3.13	4.58				4.42	539.0	1.5662

STA. NO. 08074250 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRICKHOUSE GULLY AT COSTA RICA ST. HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT ^{3}/S	ACCUM. RUNOFF IN.
	4250	4200	4150	2058						
JUNE 6										
2400	3.26	4.80	3.13	4.58				4.42	273.0	1.6103
JUNE 7										
0000	3.26	4.80	3.13	4.58				4.42	273.0	1.6103
0045	3.26	4.80	3.13	4.58				4.42	260.0	1.6349
0100	3.26	4.80	3.13	4.58				4.42	224.0	1.6425
0115	3.28	5.04	3.13	4.82				4.61	213.0	1.6498
0130	3.31	5.16	3.13	4.88				4.70	205.0	1.6567
0145	3.31	5.40	3.13	5.03				4.86	203.0	1.6636
0200	3.31	5.88	3.13	5.10				5.12	208.0	1.6707
0215	3.49	6.24	3.13	5.78				5.53	299.0	1.6808
0230	4.06	6.48	3.15	6.06				5.82	966.0	1.7137
0245	4.49	6.60	3.23	6.23				6.00	2320.0	1.7925
0300	4.61	6.60	3.95	6.33				6.09	2940.0	1.8924
0315	4.76	6.72	4.43	6.40				6.22	3140.0	1.9991
0330	4.91	6.72	4.65	6.43				6.26	3180.0	2.1072
0345	4.92	6.72	4.79	6.44				6.27	2890.0	2.2054
0400	4.94	6.72	4.93	6.44				6.28	2690.0	2.2968
0415	4.94	6.72	4.98	6.44				6.28	2360.0	2.3770
0430	4.95	6.72	5.00	6.45				6.29	2080.0	2.4830
0500	4.96	6.72	5.01	6.45				6.29	1560.0	2.6421
0600	4.98	6.72	5.02	6.45				6.29	923.0	2.8930
0900	5.02	6.72	5.03	6.45				6.30	350.0	3.0357
1200	5.04	6.72	5.03	6.45				6.30	210.0	3.1642
1800	5.04	6.72	5.03	6.45				6.30	107.0	3.2514
2400	5.04	6.72	5.03	6.45				6.30	65.0	3.2912
JUNE 8										
0000	5.04	6.72	5.03	6.45				6.30	65.0	3.2912
0600	5.04	6.72	5.03	6.45				6.30	47.0	3.3428
1200	5.04	6.72	5.03	6.45				6.30	36.0	3.3721
1800	5.04	6.72	5.03	6.45				6.30	29.0	3.3950
2400	5.04	6.72	5.03	6.45				6.30	20.0	3.4072
JUNE 9										
0000	5.04	6.72	5.03	6.45				6.30	20.0	3.4072
0600	5.04	6.72	5.03	6.45				6.30	15.0	3.4235
1200	5.04	6.72	5.03	6.45				6.30	12.0	3.4333
1800	5.04	6.72	5.03	6.45				6.30	11.0	3.4423
2400	5.04	6.72	5.03	6.45				6.30	10.0	3.4463

STA. NO. 08074250 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRICKHOUSE GULLY AT COSTA RICA STREET, HOUSTON, TEX. STORM OF JULY 28, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT³/S	ACCUM. RUNOFF IN.
	4250	4200	4150	205R	21R					
JULY 28										
0000	0.0	0.0	0.0	0.0	0.0			0.0	5.2	0.0050
1415	0.0	0.0	0.0	0.0	0.0			0.0	4.2	0.0092
1430	0.0	0.0	0.0	0.0	0.0			0.0	4.2	0.0093
1445	0.0	0.0	0.0	0.0	0.0			0.0	54.0	0.0112
1500	0.36	0.0	0.11	0.08	0.0			0.09	114.0	0.0150
1515	0.62	0.60	0.75	0.98	0.0			0.62	368.0	0.0275
1530	0.84	1.56	1.32	1.88	0.12			1.27	834.0	0.0559
1545	1.88	1.56	2.22	2.22	0.30			1.64	1700.0	0.1136
1600	2.18	1.80	2.63	2.38	0.33			1.84	2190.0	0.1881
1615	2.33	1.80	2.68	2.48	0.40			1.91	2300.0	0.2662
1630	2.35	1.80	2.69	2.52	0.40			1.92	2160.0	0.3396
1645	2.36	1.80	2.71	2.54	0.40			1.93	1980.0	0.4069
1700	2.37	1.80	2.73	2.56	0.40			1.94	1770.0	0.5573
1800	2.37	1.80	2.73	2.56	0.40			1.94	930.0	0.7469
2000	2.37	1.80	2.73	2.56	0.40			1.94	258.0	0.8521
2400	2.37	1.80	2.73	2.56	0.40			1.94	65.0	0.8830
JULY 29										
0000	2.37	1.80	2.73	2.56	0.40			1.94	65.0	0.8830
0600	2.37	1.80	2.73	2.56	0.40			1.94	26.0	0.9175
1200	2.37	1.80	2.73	2.56	0.40			1.94	13.0	0.9281
1800	2.37	1.80	2.73	2.56	0.40			1.94	8.3	0.9349
2400	2.37	1.80	2.73	2.56	0.40			1.94	5.9	0.9373

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 4.--Storm rainfall-runoff data, 1978 water year, Whiteoak Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Whiteoak Bayou at Houston, TX (Drainage area--86.3 mi^2)								
June 6-7, 1978	13	4.78	0.84	1.56	2.76	2.15	0.45	8,290

SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TX

LOCATION.--Lat 29°46'30", long 95°23'49", Harris County, Hydrologic Unit 12040104, at downstream side of downstream bridge on Heights Boulevard in Houston, 560 ft (171 m) downstream from Texas and New Orleans Railroad Co. bridge, 2.4 mi (3.9 km) upstream from Little Whiteoak Bayou, and 4.0 mi (6.4 km) upstream from mouth.

DRAINAGE AREA.--86.3 mi^2 (223.5 km^2). Prior to Oct. 1, 1976, 84.7 mi^2 (219.4 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1936 to current year (October 1965 to September 1966, monthly discharge only).

REVISED RECORDS.--WSP 1732: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 7.35 ft (2.240 m) below National Geodetic Vertical Datum of 1929; unadjusted for land-surface subsidence. Prior to June 17, 1936, nonrecording gage, and June 17, 1936, to Apr. 28, 1965, water-stage recorder at site 480 ft (146 m) upstream at same datum.

REMARKS.--Water-discharge records fair. Low flow is partly sustained by industrial waste. No diversion above station

AVERAGE DISCHARGE.--42 years, 76.8 ft^3/s (2.175 m^3/s), 55,640 acre-ft/yr (68.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,300 ft^3/s (490 m^3/s) Mar. 20, 1972, gage height, 43.50 ft (13.259 m); maximum gage height, 43.60 ft (13.289 m) Nov. 13, 1961; no flow for many days during 1965 water year (result of construction dams).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1919, 51.5 ft (15.70 m) Dec. 9, 1935, prior to channel rectification, present site and datum, discharge 14,750 ft^3/s (418 m^3/s), furnished by the engineer for Harris County. The flood of May 31, 1929, reached a stage of 47.0 ± 0.5 ft (14.33 ± 0.15 m), prior to channel rectification, present site and datum, discharge 9,360 ft^3/s (265 m^3/s), computed on basis of current-meter measurement at stage 1.0 ft (0.30 m) below crest, furnished by city of Houston.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft^3/s (70.8 m^3/s) and maximum (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 13	1300	4,350	123	27.17	8.281	June 7	0530	*8,290	235	32.86	10.016
aJan. 16	1500	5,000	142	28.20	8.595	July 28	1730	4,700	133	27.73	8.452
aMay 26	1400	994	28.2	20.43	6.227	aAug. 22	1630	127	3.60	17.36	5.291
aJune 6	1730	4,920	139	28.08	8.559	aAug. 30	1600	279	7.90	18.06	5.505

a Water-quality samples were obtained during this flood event.

Minimum daily discharge, 14 ft^3/s (0.40 m^3/s) July 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	257	46	26	143	31	38	23	239	30	40	67
2	58	131	24	79	72	32	33	28	342	37	31	66
3	42	34	19	29	63	60	32	210	285	29	22	26
4	28	22	19	23	40	36	29	29	98	26	20	37
5	27	19	19	22	33	34	27	20	43	168	22	45
6	25	19	20	21	32	35	27	19	1450	104	95	20
7	28	18	17	31	317	245	25	20	2920	26	70	85
8	27	387	16	80	608	96	23	27	375	24	27	46
9	36	128	19	30	184	45	23	28	129	23	21	58
10	32	35	18	22	130	37	40	22	54	22	20	293
11	40	24	17	367	84	33	42	21	37	21	18	414
12	28	20	18	332	501	29	57	20	33	24	131	164
13	28	20	1320	72	349	37	39	21	36	19	103	314
14	25	21	214	33	139	31	27	19	40	18	27	350
15	24	62	58	26	101	29	23	19	37	18	31	99
16	26	29	31	1440	92	34	23	20	33	16	21	35
17	27	50	24	483	327	29	24	21	30	16	20	20
18	24	25	24	637	159	30	22	20	37	14	19	17
19	22	20	21	1250	79	33	21	19	39	19	19	25
20	20	19	18	273	55	45	19	71	26	65	21	40
21	24	332	17	159	47	42	28	33	29	67	26	37
22	55	64	17	155	41	40	38	24	28	118	43	22
23	29	26	18	153	40	47	61	25	27	130	20	21
24	45	25	19	273	39	116	19	24	29	41	18	20
25	26	20	20	192	36	35	18	29	28	73	19	21
26	22	17	21	114	34	35	18	126	27	255	24	17
27	22	17	21	64	34	39	19	28	30	76	25	16
28	20	19	29	45	33	41	21	21	32	878	27	15
29	21	159	95	40	---	40	25	105	179	193	26	16
30	22	163	31	51	---	40	21	443	52	265	64	17
31	20	---	22	83	---	39	---	165	---	131	25	---
TOTAL	915	2182	2272	6605	3812	1495	862	1699	6744	2946	1095	2423
MEAN	29.5	72.7	73.3	213	136	48.2	28.7	54.8	225	95.0	35.3	80.8
MAX	58	387	1320	1440	608	245	61	443	2920	878	131	414
MIN	20	17	16	21	32	29	18	18	26	14	18	15
AC-FT	1810	4330	4510	13100	7560	2970	1710	3370	13380	5840	2170	4810
(††)	.56	4.60	3.10	7.42	3.16	1.26	.92	2.84	6.87	4.15	1.80	4.39

CAL YR 1977 TOTAL 27407 MEAN 75.1 MAX 1890 MIN 16 AC-FT 54360 †† 32.69
WTR YR 1978 TOTAL 33050 MEAN 90.5 MAX 2920 MIN 14 AC-FT 65550 †† 41.07

†† Weighted-mean rainfall, in inches, based on six rain gages.

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Chemical, biochemical, and pesticide analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
DEC										
06...	1140	19	1140	8.3	16.0	20	30	9.4	98	--
JAN										
17...	1100	413	196	7.8	9.0	160	150	11.3	101	12
APR										
25...	0850	18	1110	7.5	23.0	20	20	7.7	92	23
MAY										
26...	1430	762	253	7.9	26.0	60	200	12.4	155	19
JUN										
05...	0945	42	742	6.5	27.0	60	40	6.6	84	23
06...	1725	4870	170	6.8	27.0	220	300	6.1	77	19
JUL										
11...	0850	21	1030	7.2	28.5	40	20	7.2	94	29
AUG										
02...	0910	31	832	7.2	28.0	50	20	6.8	87	32
23...	1045	15	965	7.4	26.0	50	20	5.1	64	29
30...	1700	224	375	7.4	27.0	120	120	3.9	50	40
SEP										
25...	0840	20	939	7.5	23.5	30	10	5.1	61	25

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
DEC										
06...	2000000	1000000	13000	--	--	--	--	--	--	--
JAN										
17...	1100000	71000	12000	--	--	--	--	--	--	--
APR										
25...	1400000	180000	4900	230	0	67	15	140	4.0	7.5
MAY										
26...	1100000	48000	85000	78	0	27	2.6	14	.7	3.9
JUN										
05...	150000	10000	550	180	0	53	11	81	2.6	6.5
06...	810000	240000	79000	--	--	--	--	--	--	--
JUL										
11...	39000	3400	30	210	0	60	14	130	3.9	8.2
AUG										
02...	900000	38000	720	190	0	55	12	93	3.0	7.5
23...	1100000	79000	2500	--	--	--	--	--	--	--
30...	2000000	140000	36000	--	--	--	--	--	--	--
SEP										
25...	1100000	50000	3100	--	--	--	--	--	--	--

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	BICAR- BONATE (MG/L AS HCO3)	CAR- BONATE (MG/L AS CO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
DEC										
06...	--	--	--	--	--	--	--	70	36	.96
JAN										
17...	--	--	--	--	--	--	--	336	52	.20
APR										
25...	380	0	32	150	.5	22	621	22	21	.40
MAY										
26...	96	0	15	10	.1	4.0	132	820	204	.78
JUN										
05...	280	0	27	75	.5	20	413	62	22	1.1
06...	--	--	--	--	--	--	--	980	120	.19
JUL										
11...	350	0	25	130	.4	16	557	25	17	.40
AUG										
02...	290	0	22	85	.4	21	439	36	11	.91
23...	--	--	--	--	--	--	--	21	17	.11
30...	--	--	--	--	--	--	--	400	92	1.3
SEP										
25...	--	--	--	--	--	--	--	17	12	1.3

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
DEC									
06...	.74	1.7	6.9	2.6	9.5	7.4	20	--	.30
JAN									
17...	.03	.23	.68	1.2	1.9	.63	17	--	.00
APR									
25...	.48	.88	6.7	.90	7.6	7.0	14	--	1.6
MAY									
26...	.08	.86	.65	2.4	3.0	1.1	30	4	.30
JUN									
05...	.08	1.2	4.1	7.9	12	.80	12	2	.20
06...	.03	.22	.24	2.0	2.2	.54	24	--	.00
JUL									
11...	.48	.88	3.3	6.0	9.3	8.2	11	7	.60
AUG									
02...	.59	1.5	4.9	2.2	7.1	9.0	16	8	.80
23...	.02	.13	3.1	3.5	6.6	6.0	15	9	1.3
30...	.12	1.4	1.3	3.7	5.0	1.9	45	22	.30
SEP									
25...	.77	2.1	6.1	2.3	8.4	6.0	14	--	2.2

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
MAY							
26...	1430	6	200	1	10	5	260
JUN							
05...	0945	32	400	1	10	3	30
JUL							
11...	0850	19	500	0	0	4	30
AUG							
02...	0910	16	200	0	0	2	40
23...	1045	140	200	1	0	2	80

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY						
26...	12	60	.1	0	0	20
JUN						
05...	4	40	.1	0	0	10
JUL						
11...	0	10	.0	1	0	10
AUG						
02...	0	0	.0	1	0	20
23...	0	10	.0	0	0	20

SAN JACINTO RIVER BASIN

08074500 WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	PCB, TOTAL (UG/L)	NAPHTHALENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLORDANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DIAZINON, TOTAL (UG/L)
MAY									
26...	1430	--	.00	.00	1.1	.00	.00	.00	.62
JUN									
05...	0945	.0	.00	.00	.1	.00	.00	.00	.14
JUL									
11...	0850	.0	.00	.00	.0	.00	.00	.00	1.1
AUG									
02...	0910	.0	.00	.02	.0	.00	.00	.00	.70
23...	1045	.0	.00	.00	.0	.00	.00	.00	.84

DATE	DIELDRIN TOTAL (UG/L)	ENDOSULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTACHLOR, TOTAL (UG/L)	HEPTACHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALATHION, TOTAL (UG/L)	METHYL PARATHION, TOTAL (UG/L)
MAY									
26...	.05	.00	.00	.00	.00	.02	.01	.00	.00
JUN									
05...	.01	.00	.00	.00	.00	.00	.01	.01	.00
JUL									
11...	.00	.00	.00	.00	.00	.00	.04	.08	.00
AUG									
02...	.00	.00	.00	.00	.00	.00	.05	.09	.00
23...	.01	--	.00	.00	.03	.00	.04	.12	.00

DATE	METHYL TRITHION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARATHION, TOTAL (UG/L)	TOXAPHENE, TOTAL (UG/L)	TOTAL TRITHION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
MAY								
26...	.00	.00	.00	0	.00	.00	.00	.02
JUN								
05...	.00	.00	.00	0	.00	--	--	--
JUL								
11...	.00	.00	.00	0	.00	--	--	--
AUG								
02...	.00	.00	.00	0	.00	.04	.08	.00
23...	.00	.00	.00	0	.00	.05	.01	.00

STA. NO. 08074500 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

WHITE OAK BAYOU AT HOUSTON, TEX. STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
	4250	4200	4150	205R	204R	29R	22R			
JUNE 6										
0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	0.0015
0400	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	0.0033
0500	0.0	0.0	0.0	0.0	0.0	0.0	0.64	0.10	41.0	0.0038
0515	0.0	0.0	0.0	0.0	0.0	0.0	0.68	0.10	42.0	0.0040
0530	0.0	0.0	0.0	0.0	0.0	0.04	0.74	0.12	42.0	0.0042
0545	0.0	0.0	0.0	0.0	0.0	0.04	0.78	0.12	42.0	0.0043
0600	0.0	0.0	0.0	0.0	0.0	0.14	0.85	0.15	53.0	0.0046
0615	0.0	0.0	0.0	0.0	0.0	0.28	0.85	0.17	65.0	0.0049
0630	0.0	0.36	0.0	0.20	0.0	0.33	0.85	0.22	63.0	0.0052
0645	0.0	0.36	0.0	0.20	0.0	0.34	0.85	0.22	62.0	0.0054
0700	0.0	0.36	0.0	0.20	0.04	0.34	0.85	0.23	61.0	0.0061
0800	0.0	0.36	0.0	0.20	0.04	0.34	0.85	0.23	53.0	0.0071
0900	0.0	0.36	0.0	0.20	0.04	0.34	0.85	0.23	67.0	0.0083
1000	0.0	0.36	0.0	0.20	0.04	0.34	0.85	0.23	53.0	0.0092
1100	0.0	0.36	0.0	0.20	0.04	0.34	0.85	0.23	70.0	0.0102
1130	0.0	0.36	0.0	0.20	0.04	0.34	0.85	0.23	82.0	0.0107
1145	0.0	0.36	0.0	0.30	0.04	0.34	0.85	0.24	80.0	0.0111
1200	0.0	0.48	0.0	0.58	0.04	0.34	0.85	0.29	78.0	0.0114
1215	0.03	0.72	0.0	0.58	0.04	0.34	0.85	0.31	76.0	0.0118
1230	0.03	0.72	0.0	0.58	0.04	0.34	0.85	0.31	97.0	0.0122
1245	0.03	0.72	0.09	0.58	0.04	0.34	0.85	0.32	237.0	0.0133
1300	0.03	0.72	0.09	0.60	0.04	0.34	0.85	0.32	451.0	0.0153
1315	0.10	0.72	0.09	0.60	0.04	0.34	0.85	0.34	652.0	0.0182
1330	0.10	0.72	0.09	0.60	0.27	0.34	0.85	0.38	873.0	0.0221
1345	0.10	0.72	0.10	0.60	0.27	0.70	0.86	0.43	1120.0	0.0272
1400	0.10	0.72	0.11	0.60	0.27	0.71	0.87	0.44	1400.0	0.0334
1415	0.40	0.72	0.11	0.60	0.27	0.71	0.87	0.51	1690.0	0.0410
1430	0.70	0.72	0.11	1.18	0.27	0.71	0.87	0.67	2000.0	0.0500
1445	1.16	1.44	0.11	1.87	0.54	0.71	0.97	0.98	1920.0	0.0586
1500	1.20	2.28	0.11	2.34	0.72	0.71	1.11	1.15	1840.0	0.0669
1515	1.20	2.88	0.65	2.94	0.95	0.73	1.11	1.37	1820.0	0.0751
1530	1.70	3.48	1.08	3.31	1.24	0.76	1.11	1.67	1940.0	0.0838
1545	2.04	3.72	1.33	3.44	1.29	0.76	1.11	1.82	2180.0	0.0936
1600	2.10	3.84	1.70	3.71	1.30	0.78	1.11	1.92	2440.0	0.1045
1615	2.16	4.20	1.86	3.82	1.32	0.78	1.11	1.99	3160.0	0.1187
1630	2.16	4.20	1.90	3.84	1.32	0.78	1.11	1.99	3960.0	0.1365
1645	2.16	4.20	2.08	3.84	1.32	0.78	1.12	2.01	4360.0	0.1560
1700	2.16	4.20	2.08	3.84	1.32	0.78	1.13	2.02	4790.0	0.1775
1715	2.16	4.20	2.08	3.84	1.32	0.78	1.16	2.02	4870.0	0.1994

STA. NO. 08074500 — STORM RAINFALL AND RUNOFF RECORD — 1978 WATER YEAR

WHITE OAK BAYOU AT HOUSTON, TEX. — STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP.	DISCHARGE IN	ACCUM. RUNOFF
	4250	4200	4150	205R	204R	29R	22R	IN.	FT³/S	IN.
JUNE 6										
1730	2.17	4.20	2.08	3.84	1.32	0.78	1.19	2.03	4920.0	0.2215
1745	2.17	4.20	2.08	3.84	1.32	0.78	1.23	2.03	4800.0	0.2430
1800	2.19	4.20	2.08	3.84	1.32	0.78	1.27	2.04	4680.0	0.2640
1815	2.18	4.20	2.08	3.84	1.32	0.88	1.27	2.06	4470.0	0.2841
1830	2.18	4.32	2.08	3.84	1.34	1.09	1.27	2.09	4260.0	0.3032
1845	2.18	4.56	2.08	4.28	1.54	1.23	1.27	2.23	3990.0	0.3211
1900	2.19	4.80	2.09	4.53	1.63	1.24	1.27	2.24	3730.0	0.3379
1915	2.20	4.80	2.09	4.58	2.04	1.24	1.27	2.52	3440.0	0.3533
1930	3.18	4.80	2.10	4.58	2.37	1.24	1.27	2.67	3160.0	0.3675
1945	3.20	4.80	2.70	4.58	2.40	1.24	1.27	2.74	2870.0	0.3804
2000	3.22	4.80	3.04	4.58	2.40	1.24	1.27	2.78	2910.0	0.4000
2030	3.24	4.80	3.08	4.58	2.40	1.24	1.27	2.78	3770.0	0.4338
2100	3.26	4.80	3.12	4.58	2.40	1.24	1.27	2.79	4230.0	0.4718
2130	3.26	4.80	3.12	4.58	2.40	1.24	1.27	2.79	4020.0	0.5079
2200	3.26	4.80	3.13	4.58	2.40	1.24	1.27	2.79	3600.0	0.5887
2400	3.26	4.80	3.13	4.58	2.40	1.24	1.61	2.85	2010.0	0.6271
JUNE 7										
0000	3.26	4.80	3.13	4.58	2.40	1.24	1.61	2.85	2010.0	0.6271
0015	3.26	4.80	3.13	4.58	2.40	1.26	1.70	2.86	1920.0	0.6379
0030	3.26	4.80	3.13	4.58	2.40	1.26	1.85	2.88	1840.0	0.6462
0045	3.26	4.80	3.13	4.58	2.40	1.38	2.00	2.92	1760.0	0.6541
0100	3.26	4.80	3.13	4.58	2.40	1.47	2.11	2.95	1690.0	0.6617
0115	3.29	5.04	3.13	4.82	2.40	1.83	2.30	3.08	1620.0	0.6689
0130	3.31	5.16	3.13	4.88	2.65	2.02	2.50	3.21	1560.0	0.6760
0145	3.31	5.40	3.13	5.03	2.85	2.04	2.55	3.28	1500.0	0.6827
0200	3.31	5.88	3.13	5.10	2.90	2.12	2.61	3.35	1440.0	0.6891
0215	3.49	6.24	3.13	5.78	3.22	2.83	2.65	3.67	1380.0	0.6953
0230	4.06	6.48	3.15	6.06	4.00	3.00	2.70	4.03	1320.0	0.7013
0245	4.44	6.60	3.23	6.23	4.35	3.21	2.75	4.26	1640.0	0.7086
0300	4.61	6.60	3.95	6.33	4.54	3.27	2.80	4.43	1980.0	0.7175
0315	4.76	6.72	4.43	6.40	4.72	3.34	2.82	4.57	3100.0	0.7314
0330	4.91	6.72	4.65	6.43	4.90	3.45	2.82	4.68	4390.0	0.7511
0345	4.92	6.72	4.79	6.44	4.96	3.53	2.82	4.72	5580.0	0.7762
0400	4.94	6.72	4.93	6.44	4.97	3.54	2.82	4.74	6880.0	0.8071
0415	4.94	6.72	4.98	6.44	4.98	3.54	2.82	4.75	7380.0	0.8402
0430	4.95	6.72	5.00	6.45	4.98	3.54	2.82	4.76	7900.0	0.8934
0500	4.96	6.72	5.01	6.45	4.98	3.54	2.82	4.76	8260.0	0.9490
0515	4.96	6.72	5.01	6.45	4.98	3.56	2.82	4.76	8270.0	0.9861
0530	4.97	6.72	5.02	6.45	4.98	3.56	2.82	4.77	8290.0	1.0420
0600	4.99	6.72	5.02	6.45	4.98	3.56	2.82	4.77	8080.0	1.2959

STA. NO. 08074500

STORM RAINFALL AND RUNOFF RECORD

1978 WATER YEAR

WHITE OAK BAYOU AT HOUSTON, TEX.

STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER 4250	4200	4150	205R	204R	29R	22R	ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
JUNE 7										
0900	5.02	6.72	5.02	6.45	4.98	3.56	2.82	4.78	4440.0	1.5350
1200	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	2480.0	1.7354
1800	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	1210.0	1.8658
2400	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	749.0	1.9263
JUNE 8										
0000	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	749.0	1.9263
0600	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	468.0	1.9969
1200	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	350.0	2.0346
1800	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	262.0	2.0628
2400	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	214.0	2.0801
JUNE 9										
0000	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	214.0	2.0801
0600	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	161.0	2.1032
1200	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	122.0	2.1164
1800	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	91.0	2.1262
2400	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	78.0	2.1325
JUNE 10										
0000	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	78.0	2.1325
0600	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	61.0	2.1411
1200	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	51.0	2.1466
1800	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	46.0	2.1516
2400	5.04	6.72	5.02	6.45	4.98	3.56	2.82	4.78	44.0	2.1539

SAN JACINTO RIVER BASIN

08074550 LITTLE WHITEOAK BAYOU AT HOUSTON, TX
(Low-flow partial-record station)

LOCATION.--Lat 29°47'05", long 95°21'56", Harris County, Hydrologic Unit 12040104, at bridge on North Main Street, 0.8 mi (1.3 km) upstream from mouth, and 1.7 mi (2.7 km) north of Harris County courthouse.

DRAINAGE AREA.--20.9 mi² (54.1 km²).

PERIOD OF RECORD.--Occasional discharge measurements and water-quality data: May 1971 to current year.

DISCHARGE AND WATER-QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	COLOR (PLAT-INUM-COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L)
DEC										
06...	1325	6.9	778	8.0	18.0	20	10	7.4	80	--
JUN										
05...	0850	5.0	525	6.7	26.5	70	20	3.4	43	10
06...	1835	1300	189	6.8	27.0	200	180	5.1	65	18
JUL										
18...	1220	4.6	794	7.1	29.5	30	20	3.7	49	29
AUG										
07...	1025	5.2	815	7.5	28.0	50	10	4.4	56	7.5
30...	1530	132	524	7.1	27.5	120	60	.3	4	74
30...	1615	120	461	7.2	27.5	120	85	3.8	49	43
31...	1000	10	415	7.1	24.0	100	25	.7	9	29

DATE	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
DEC										
06...	3900000	440000	7000	--	--	--	--	--	--	--
JUN										
05...	140000	25000	2500	150	0	46	8.4	48	1.7	4.1
06...	1600000	1000000	70000	77	4	27	2.4	6.5	.3	2.7
JUL										
18...	910000	200000	10000	160	0	46	12	110	3.7	3.9
AUG										
07...	41000	7000	650	150	0	44	10	110	3.9	4.6
30...	3500000	1200000	160000	90	0	31	5.1	61	2.7	4.8
30...	4000000	1200000	52000	--	--	--	--	--	--	--
31...	180000	50000	820	84	0	27	4.0	45	2.1	4.2

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, VOLA-TILE, SUS-PENDED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)
DEC										
06...	--	--	--	--	--	--	--	13	2	.10
JUN										
05...	220	0	24	40	.4	14	294	27	3	.10
06...	89	0	7.3	5.7	.1	6.5	102	464	56	.28
JUL										
18...	320	0	18	80	.6	8.7	437	28	25	.04
AUG										
07...	320	0	23	80	.4	10	440	17	16	.06
30...	220	0	19	41	.4	11	282	127	53	.58
30...	--	--	--	--	--	--	--	209	73	.73
31...	170	0	14	38	.3	9.4	224	31	18	.06

DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
DEC									
06...	.05	.15	1.1	.90	2.0	1.2	5.5	--	.40
JUN									
05...	.07	.17	1.2	.80	2.0	.04	8.8	6	.10
06...	.04	.32	.24	1.5	1.7	.56	16	--	.00
JUL									
18...	.09	.04	1.0	2.6	3.6	1.5	11	10	.40
AUG									
07...	.05	.11	3.8	4.0	7.8	2.1	9.3	8	.40
30...	.05	.63	4.5	7.5	12	3.1	70	--	1.0
30...	.07	.80	1.1	4.5	5.6	1.8	37	12	1.1
31...	.01	.07	2.8	2.5	5.3	1.8	22	11	2.0

08074550 LITTLE WHITEOAK BAYOU AT HOUSTON, TX--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

DATE	TIME	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)
JUN 05...	0850	14	300	1	10	4	40
JUL 18...	1220	5	400	0	10	3	20
AUG 07...	1025	9	200	0	0	3	20
31...	1000	31	0	0	0	1	20

DATE	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
JUN 05...	3	0	.2	0	0	10
JUL 18...	0	10	.0	0	0	10
AUG 07...	0	10	.0	1	0	10
31...	8	120	.0	0	0	10

DATE	TIME	PCB, TOTAL (UG/L)	NAPH-THA-LENES, POLY-CHLOR. TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)
JUN 05...	0850	.0	.00	.00	.0	.00	.00	.00	.52
JUL 18...	1220	.0	.00	.00	.0	.00	.00	.00	.37
AUG 31...	1000	.0	.00	.00	.1	.00	.00	.00	.73

DATE	DI-ELDRIN TOTAL (UG/L)	ENDO-SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)
JUN 05...	.00	.00	.00	.00	.00	.00	.04	.01	.00
JUL 18...	.01	.00	.00	.00	.00	.00	.01	.02	.00
AUG 31...	.01	.00	.00	.00	.00	.00	.02	.10	.00

DATE	METHYL TRI-THION, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
JUN 05...	.00	.00	.00	0	.00	.00	.00	.00
JUL 18...	.00	.00	.00	0	.00	.00	.00	.00
AUG 31...	.00	.00	.00	0	.00	.00	.01	.00

BRAYS BAYOU DRAINAGE BASIN

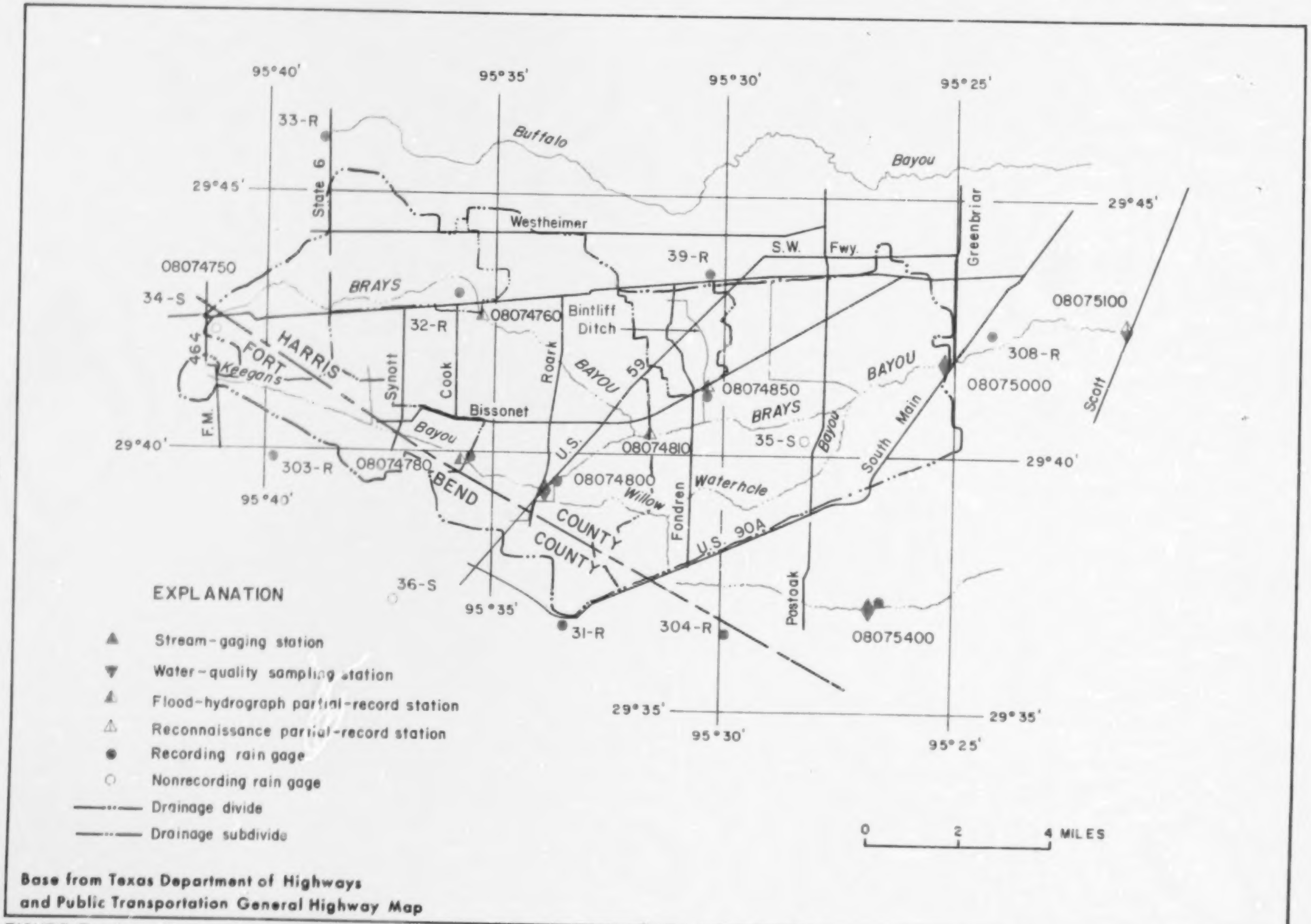
The locations of data-collection sites in and near the Brays Bayou drainage basin are shown on figure 7.

Flood-hydrograph partial-record station 08074760, Brays Bayou at Alief, Tex., was put into operation Feb. 3, 1977.

Bintliff Ditch and Keegans Bayou are shown on separate drainage basins within the Brays Bayou section.

Weighted-mean rainfall in the drainage basin for the 1978 water year based on eight rain gages was 36.1 inches or 12.1 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

No storms were analyzed for the 1978 water year for station 08075000, Brays Bayou at Houston. The storm of June 6-7 was selected for analysis at station 08074760, Brays Bayou at Alief, Tex., and station 08074810, Brays Bayou at Gessner drive, Houston, Tex.



Base from Texas Department of Highways
and Public Transportation General Highway Map

FIGURE 7.- Locations of data-collection sites in and near the Brays Bayou drainage basin

TX-35
Rev. 5/80

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY-TEXAS DISTRICT

ANNUAL STORM RAINFALL-RUNOFF SUMMARY DATA

Table 5.--Storm rainfall-runoff data, 1978 water year, Brays Bayou

Date of Storm	85% Duration (hours)	Rainfall (inches)				Runoff (inches)	Ratio runoff to rainfall	Maximum discharge (ft^3/s)
		Weighted Total	Maximum Increment Recorded in Basin					
			15-minute	30-minute	60-minute			
Brays Bayou at Alief, TX (Drainage area--14.1 mi^2)								
June 6-7, 1978	14.5	3.54	0.80	0.91	1.82	2.66	0.75	1,510
Brays Bayou at Gessner Drive, Houston, TX (Drainage area--53.2 mi^2)								
June 6-7, 1978	14.8	2.70	1.00	1.62	1.98	1.26	0.47	3,570

08074760 BRAYS BAYOU AT ALIEF, TEX.
(Flood-hydrograph partial-record station)

LOCATION.--Lat 29°42'39", long 95°35'13", Harris County, Hydrologic unit 12040104, near center of channel on downstream side of bridge on High Star Street in Alief, Tex.

DRAINAGE AREA (revised).--14.1 mi^2 effective Jan. 1, 1978. 12.9 mi^2 effective Feb. 3, 1977 to Dec. 31, 1977.

PERIOD OF RECORD.--Feb. 3, 1977 to present.

GAGE.--Digital flood-hydrograph recorder and crest-stage gage. Datum of gage is 55.88 ft National Geodetic Vertical Datum of 1929, 1957 adjustment; unadjusted for land-surface subsidence.

REMARKS.--Records fair.

EXTREMES FOR PERIOD FEBRUARY TO SEPTEMBER, 1977.--Peak discharge above base of 300 ft^3/s and maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Feb. 10	2000	*505	10.13
April 20	1900	361	10.22

Minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 300 ft^3/s or maximum (*):

DATE	TIME	DISCHARGE (ft^3/s)	GAGE HEIGHT (ft)
Jan. 16	1630	998	11.29
Jan. 19	0430	712	10.54
Feb. 8	0430	328	9.18
June 7	0500	*1,510	13.24

Minimum discharge, not determined.

STA. NO. 08074760

STORM RAINFALL AND RUNOFF RECORD

1978 WATER YEAR

BRAYS BAYOU AT ALIEF, TEXAS

STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER 33R	 32R						ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT^3/S	ACCUM. RUNOFF IN.
JUNE 6										
0000	0.0	0.0								
0500	0.77	0.02						0.0	3.0	0.0008
0600	0.80	0.05						0.24	3.0	0.0018
0700	0.80	0.05						0.27	3.0	0.0021
0800	0.80	0.05						0.27	3.0	0.0025
0900	0.80	0.05						0.27	3.0	0.0028
1000	0.80	0.05						0.27	3.0	0.0031
1100	0.80	0.05						0.27	3.0	0.0035
1115	0.80	0.05						0.27	3.0	0.0037
1130	0.87	0.44						0.27	3.0	0.0038
1200	0.87	0.44						0.57	3.0	0.0039
1215	0.87	0.44						0.57	3.0	0.0040
1230	0.88	0.49						0.57	4.0	0.0041
1300	0.88	0.49						0.61	5.0	0.0043
1315	0.88	0.49						0.61	10.0	0.0047
1330	1.20	0.60						0.61	11.0	0.0050
1345	1.40	0.60						0.78	12.0	0.0054
1400	1.56	0.70						0.84	13.0	0.0057
1500	3.38	0.80						0.96	15.0	0.0067
1600	3.46	0.80						1.57	20.0	0.0089
1700	3.46	0.80						1.60	30.0	0.0122
1730	3.46	0.80						1.60	50.0	0.0164
1745	3.46	0.90						1.60	75.0	0.0203
1800	3.46	0.90						1.67	170.0	0.0249
1900	3.46	1.06						1.67	328.0	0.0475
1915	3.46	1.07						1.78	625.0	0.0904
2000	3.47	1.09						1.79	718.0	0.1299
2100	3.50	1.09						1.80	823.0	0.2090
2200	3.51	1.09						1.81	876.0	0.3053
2400	3.51	1.09						1.82	819.0	0.4403
JUNE 7								1.82	638.0	0.5279
0000	3.51	1.09								
0100	4.28	1.60						1.82	638.0	0.5279
0115	4.28	1.60						2.40	554.0	0.5836
0130	4.40	1.70						2.40	540.0	0.5586
0145	4.59	2.50						2.51	522.0	0.6130
0200	5.12	2.60						3.22	505.0	0.6268
0215	5.14	2.65						3.38	489.0	0.6403
0230	5.16	2.70						3.40	478.0	0.6534
0245	5.19	2.75						3.44	566.0	0.6690
								3.48	718.0	0.6887

STA. NO. 08074760 STORM RAINFALL AND RUNOFF RECORD 1978 WATER YEAR

BRAYS BAYOU AT ALIFF, TEXAS STORM OF JUNE 6-7, 1978

DATE & TIME	GAGE NUMBER							ACCUM. WEIGHTED PRECIP. IN.	DISCHARGE IN FT3/S	ACCUM. RUNOFF IN.
	33R	32R								
JUNE 7										
0300	5.21	2.81						3.53	880.0	0.7491
0400	5.22	2.81						3.53	1360.0	0.8612
0430	5.23	2.81						3.54	1480.0	0.9426
0500	5.23	2.81						3.54	1510.0	1.0255
0530	5.23	2.81						3.54	1480.0	1.1069
0600	5.23	2.81						3.54	1430.0	1.3819
0900	5.23	2.81						3.54	985.0	1.7066
1200	5.23	2.81						3.54	668.0	1.9269
1500	5.23	2.81						3.54	451.0	2.0756
1800	5.23	2.81						3.54	315.0	2.2313
2400	5.23	2.81						3.54	161.0	2.3110
JUNE 8										
0000	5.23	2.81						3.54	161.0	2.3110
0600	5.23	2.81						3.54	110.0	2.4100
1200	5.23	2.81						3.54	83.0	2.4648
1800	5.23	2.81						3.54	65.0	2.5076
2400	5.23	2.81						3.54	56.0	2.5353
JUNE 9										
0000	5.23	2.81						3.54	56.0	2.5353
0600	5.23	2.81						3.54	47.0	2.5756
1200	5.23	2.81						3.54	33.0	2.6013
1800	5.23	2.81						3.54	31.0	2.6217
2400	5.23	2.81						3.54	25.0	2.6341
JUNE 10										
0000	5.23	2.81						3.54	25.0	2.6341
0600	5.23	2.81						3.54	17.0	2.6494
1200	5.23	2.81						3.54	12.0	2.6573
1800	5.23	2.81						3.54	7.3	2.6621
2400	5.23	2.81						3.54	3.9	2.6634

KEEGANS BAYOU DRAINAGE BASIN

The locations of data-collection sites in and near the Keegans Bayou drainage basin are shown on figure 8.

Weighted-mean rainfall in the drainage basin, based on two rain gages for the 1978 water year was 35.21 inches or 13.0 inches less than the 30-year (1941-70) average of 48.19 inches for Houston.

The storm of June 7 was selected for analysis at stations 08074780, Keegans Bayou at Keegan Road near Houston, and 08074800, Kegans Bayou at Roark Road near Houston